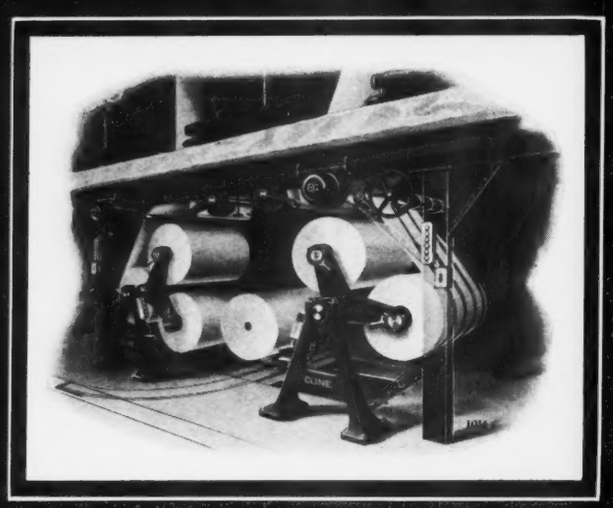
PRINTING ENGINEER

APRIL 1937

A TECHNICAL PUBLICATION FOR MECHANICAL EXECUTIVES IN THE GRAPHIC PRODUCTION AND ARTS INDUSTRY

CLINE REELS
and
AUTOMATIC ELECTRIC TENSIONS
...are the Standard for High Speed Presses



The Reasons Hundreds are in use . . . . .

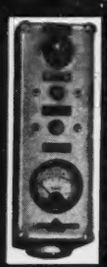
The reels are simple, rugged, easy to operate.

Adjustments for roll size can be made quickly.

Patent chuck and margin control, permitting quick and positive adjustment.

Correct design of motors and control.

No connection between the reels and tension, therefore new rolls may be chucked in the reel spindles without disturbing tension.



The success of Cline Torque Motor Tensions is proven by the use of several hundred of them in the largest newspaper plants in the United States and foreign countries. It is the only tension that can be adjusted to definite values.

The results recently obtained on high speed presses equipped with this type of tension have caused much favorable comment.

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Cline Tensions include the following features:

Straps held in tension against roll by torque motor controlled by a roller floating on the web.

Tension adjustable from pressroom level.

Tension value indicated at tension control station on press unit.

Tension automatically increased when press slows down and for red button "stop," in proportion to rate of deceleration.

Straps drop away from roll at will of reel tender to permit roll to be rotated for threading web through press, etc.

No moving parts for paper to get into in case of web break.

No danger to men.

No adjustment of tension by reel tender.

Slow speed pasters are standard part of equipment.

(Cline High-Speed Paster device may be added to this tension to provide the simplest, surest, safest high-speed paster.)

Through interconnection of the press and tension controls the running speed of the press and retarding action on the paper rolls is co-ordinated

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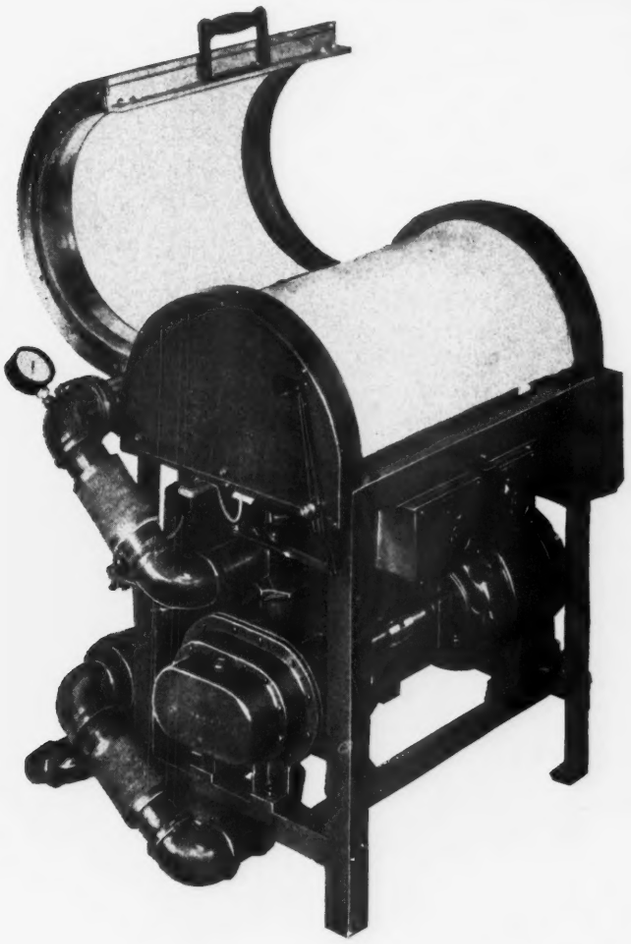
DON'T PIN YOUR HOPE ON HOBOS



Newspapers of yesterday pinned much of their hope for quality printing on the belief that any primitive or "hobo" dry-mat scorcher was good enough, as long as they utilized other modernized equipment. **The falsity of this belief** has long since been discovered. Today, **121** newspapers are operating **153 Stahi Autoformers**—because they appreciate **Uniform Casting Levels**—reflecting **Better Quality Printing,** thus bringing dry-mat procedure up to a modern basis.

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Controlling Overhead Expense

By L. E. BAUERFEIND*

Items constituting overhead in composing room divided into Variable and Non-Variable Groups for purpose of allocating them to proper classification in cost system

ALTHOUGH many of us are prone to do so there is absolutely no sense in trying to "kid" ourselves into thinking our Overhead Expenses are low merely because we fail to take proper account of them. No matter how we "chisel" these expenses down on our books, they are, nevertheless, always with us and some day we will find, to our dismay, that our actual assets are not equal to our book assets.

It is much the best policy to account for and equitably distribute every little item of Overhead Expense and then having an accurate accounting in an endeavor to actually reduce them conscientiously. In the composing room Overhead Expense is greater than Direct Expense and through accurate accounting, intelligent reports and constant watchfulness is subject to material reductions. This can be done by the use of correct cost accounting.

Cost Accounting Benefits

Cost accounting can be used by newspapers to an equal advantage to that which it has given commercial printers. It is charged with testing efficiency, detecting and measuring waste, showing fall-downs of men, machines, departments, operations and processes. It must be able to present the history of the business in terms of figures, show and explain its present and to some degree forecast its future. It is a means to an end and not an end in itself.

Two Sides to Cost Accounting

There are two sides to cost accounting. (1) the Bookkeeping. (2) The control or service.

(1) The bookkeeping end has to do with the keeping of records by means of which the cost accountant is able to reduce a large variety of transactions to a few usable and accurate statements. This is solely the concern of the cost accountant.

(2) The Control or Service side, in contrast, is the concern of practically every executive or department head of the newspaper. The conclusions drawn by the cost accountant are of vital significance to the efficient control of operations even though these conclusions may be more intangible and abstruse and less exact than the bookkeeping side. The intelligent publisher will judge cost accounting by the control or service feature.

In the control of plant performance the first logical step is the setting of a standard. The second step is the recording of actual performance and the third one, to which the first two are necessary preliminaries, is the comparison of the actual to the standard. The subdivisions of the third step are two. (1) Determining the variances of the actual from the standard. (2) analyzing the causes of each individual variance.

No other method is equal in effectiveness to Standard Costs in guiding plant efficiency and in testing and improving production.

In a newspaper there should be four main divisions of costs:

1. Production
2. Advertising
3. Distribution or Circulation
4. Administration.

Production is further divided into four subdivisions:

a. Editorial
b. Composing Room
c. Stereotyping
d. Press Room.

(Note: Engraving, if a department is maintained)
(These four subdivisions may be further divided into numerous cost centers, if desired.)

Composing Room costs are of two classifications:

1. Direct Labor.
2. Overhead or Burden.

The handling of Direct Labor was explained in "Executive Control of Labor in the Composing Room" which appeared in the February and March issues of *Printing* Equipment *Engineer*. We will now consider the control of Overhead or Burden in the composing room.

The items composing the Overhead Group are normally as follows:

1. Power
2. Heat
3. Lights
4. Water
5. Supplies (gasoline, oil, grease, ink, proof paper, etc.)
6. Tools
7. Repair Parts
8. Supervision
9. Telephone, telegraph
10. Share of Depreciation of Building (or Rent)
11. Depreciation of Machinery and Equipment
12. Share of Insurance of Building (or Rent)
13. Insurance of Machinery and Equipment
14. Share of Taxes on Building (or Rent)
15. Taxes on Machinery and Equipment
16. Share of Repairs and Maintenance of Building (or Rent)
17. Repairs and Maintenance of Machinery and Equipment
18. Employers Liability Insurance
19. Social Security Taxes
20. Depreciation of Composing Machine Metal
21. Share of Administrative Expense.

Variable and Non-Variable Overhead

Overhead Expense is of two kinds: Variable and Non-Variable.

Non-Variable Overhead Expenses are those items which have a constant existence, such as:

Depreciation of Machinery and Equipment
Taxes on Machinery and Equipment
Insurance on Machinery and Equipment
Rent (if building is not owned, or, the equivalent depreciation, insurance and maintenance account share)
Interest on Investment (if the theory is accepted that it is a cost item)

(*Continued on Page 57*)

*The *American-Statesman*, Austin, Texas.

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and
Various Bulletins published by the United Typothetae of America
as well as
A Review of the System of The Charles R. Hadley Co., Los Angeles, Calif.
and
A Review of the System of A. C. Baldwin & Sons, Austin, Texas.

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Sale!
Pum

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These matrices will cast a million dollar-figures! →

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Investigate in detail the features of a system of display composition which offers many advantages. Learn why it affords the most efficient, direct method of producing display lines. Write for full particulars, which will be mailed at once without obligation.

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ASK the many newspapers who are using Goodyear Rollers how *you'll gain* by changing to rubber and they'll answer:

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GOODYEAR

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Printing Equipment Engineer

Trade-Mark Registered U. S. Pat. Office

April, 1937
Volume 54 No. 1

A Monthly Publication

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A Technical Publication for the Mechanical Executive Responsible for Printing Production, Equipment and Supplies in the Commercial, Magazine, Private Plant and Daily Newspaper Field.

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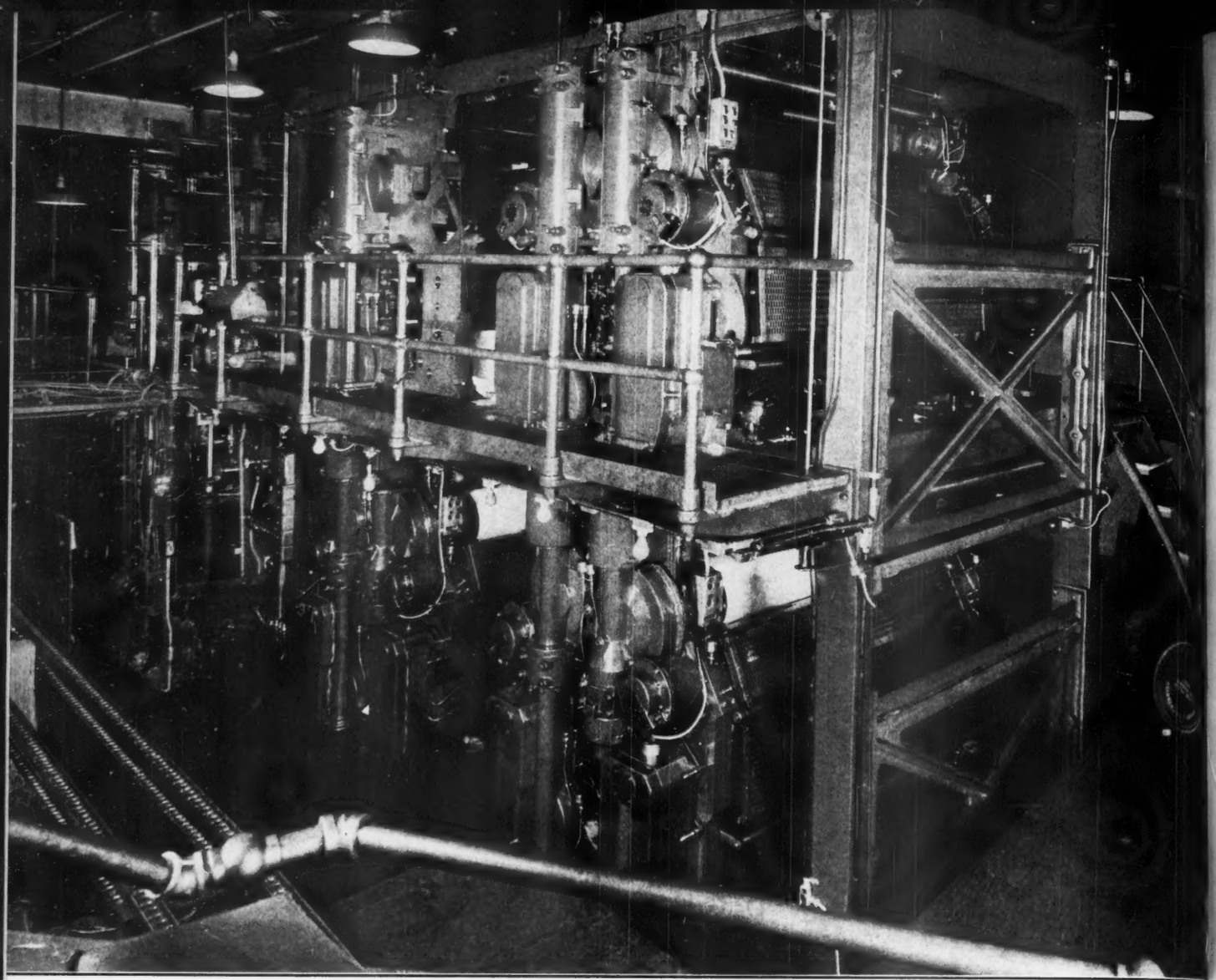

ADVERTISING IN COLOR IS INCREASING BY LEAPS AND BOUNDS . . . . .

Foremost in the Printing Field to develop perfect color printing —color production at high speed—is Walter Scott & Co.

Here is shown color units in the plant of "The Indianapolis News", which can be operated separately or in combination.

These "Walter Scott Color Presses" do actually "Paint the Lily."

Write for details relating to early delivery.

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230 West 41st St.

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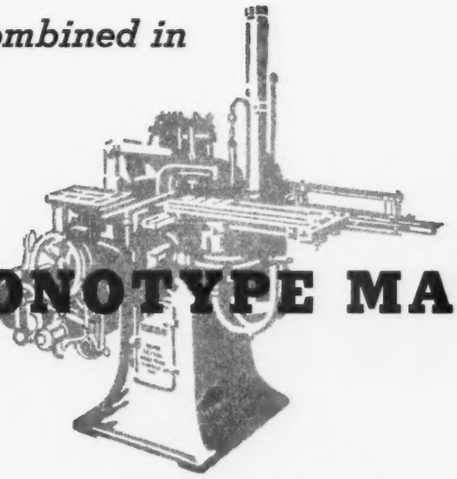
TYPE-SETTING
TYPE-CASTING
STRIP-MAKING *combined in*



ONE MONOTYPE MACHINE

Only the Monotype is a type-setting, a type-casting and a strip-casting machine. It makes hand compositors more efficient by providing an unlimited supply of the type and material with which they work, and saves the time which otherwise would be required for distribution; it betters the quality of printing by providing new perfect type of uniform height for every job. Only in the Monotype is combined a type-setting, a type-casting and a strip-material-making machine, all in one. No other type-setting machine has this feature.

Type-Setting—The MONOTYPE Type-Setting Machine sets type in measures up to 60 picas wide in all sizes from 4 to 18 point. Straight matter, tabular and intricate work, ruled forms, rule-and-figure work—in fact, all kinds of composition—are done with unequalled versatility and speed. No other machine embodies within its scope of operation so wide a range of type-setting, such versatility in the range and character of its product, nor contributes so much to bettering the quality of printing.

Type-Casting—The MONOTYPE Display Type Attachment enables the same machine to cast new and perfect type, spaces, special characters and decorative material in all sizes from 4 to 36 point. More than 3,000 faces and sizes of type and 7,500 ornaments and borders are available for casting on the Monotype. These include many original faces designed by Frederic W. Goudy and Sol. Hess, and most of the traditional and modern faces now in general use by printers and typographers.

Strip-Casting—Equipped with Lead, Slug and Rule Molds and the Cutter Attachment the same Monotype casts strip rules from 1½ to 12 point—in continuous strips or automatically cut to all labor-saving measures from 6 picas to 25 inches. Too much emphasis cannot be placed upon the importance of providing hand compositors at all times with a convenient and adequate supply of rule, leads and slugs. This Monotype feature saves countless hours of time and adds greatly to net profits.

LANSTON MONOTYPE MACHINE COMPANY

Twenty-fourth and Locust Streets, Philadelphia, Penna.

Composed in the Monotype Stymie Family

For all 3 these five come to Hoe

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ALLENTOWN MORNING CALL
orders 6 Hoe Arched-Type Super-Production Units, 2 Hoe Super-Production Folders and 6 Hoe Reels equipped with Hoe Tensions.

MAGAZINE

THE CONDE-NAST PRESS OF GREENWICH, CONN.
orders 3 Hoe 64-page Super-Production Magazine Presses with Hoe Reels, Automatic Tensions and Full-Speed Pasters to produce the high-class publications for which they are famous.

ROTOGRAVURE

NEO GRAVURE PRINTING CO. OF NEW YORK
orders 10 more Hoe high-speed, multi-color rotogravure units, Hoe Super-Production Folder and 3 Hoe Reels with Electric Tensions and Pasters.

THE ART GRAVURE CORPORATION OF OHIO
orders 11 more Hoe high-speed, multi-color rotogravure units and Hoe Folder with 3 Hoe Reels, Tensions and Pasters to be added to the 5 Hoe multi-color rotogravure units, Hoe Reels, Tensions, Pasters and flat delivery which were recently installed by the Cleveland Plain Dealer.

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HOE
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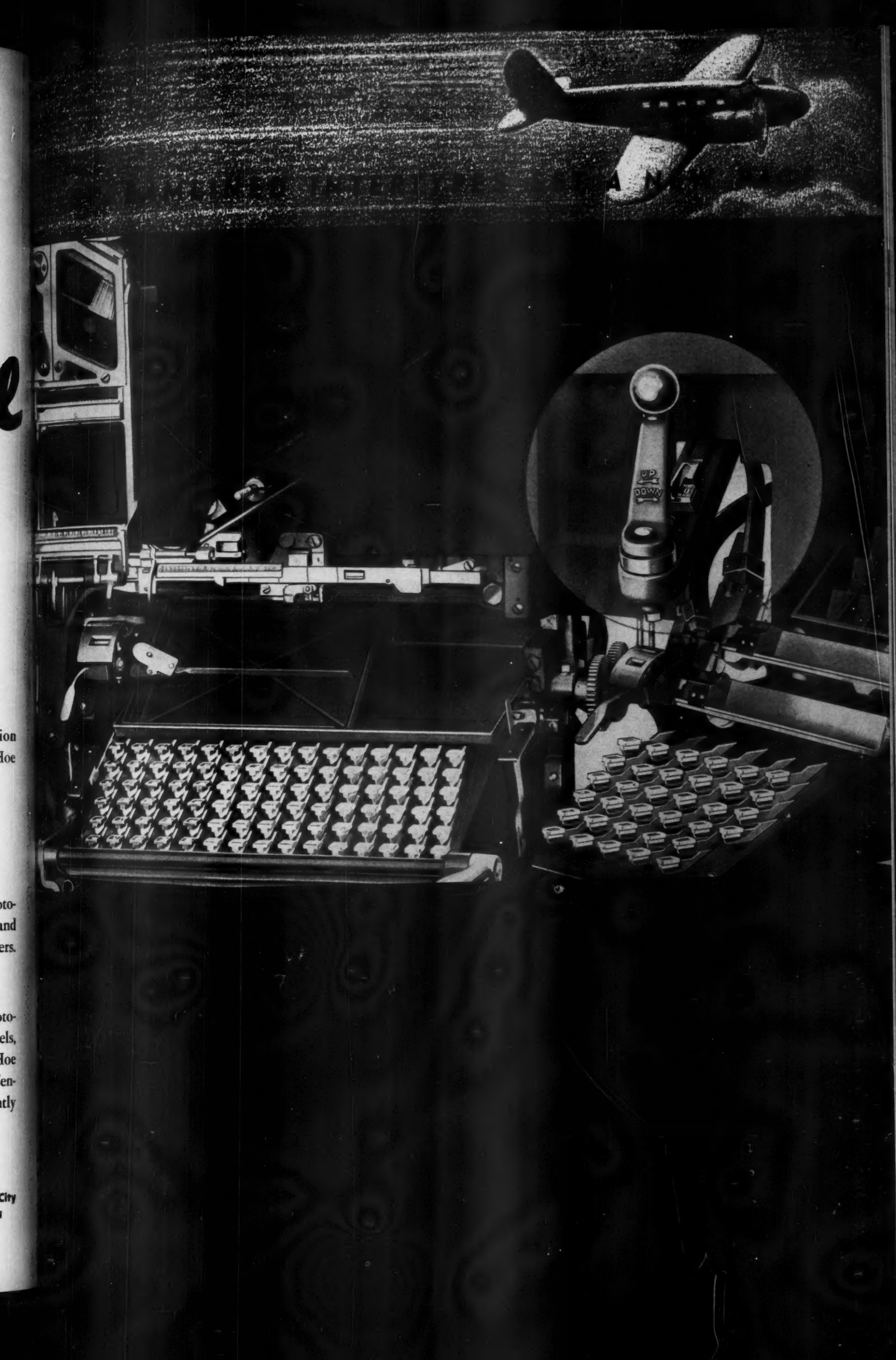

UP
DOWN

SPOTLIGHTING Some of the 101 Features of the NEW STREAMLINED INTERTYPES

GENTLEMEN of the Graphic Arts . . . step up and examine the new *Streamlined Intertypes* as we throw a spotlight on some of their 101 features.

Let's look at them from the owner's viewpoint. In other words, what do these features mean from the standpoint of operating costs and profits? Let's take, for example, feature No. 74 . . .

NEW STREAMLINED WIDE PEDESTAL BASE

Here's a big improvement in appearance, you'll readily agree; but is that all? By no means! That new base has *several* advantages:

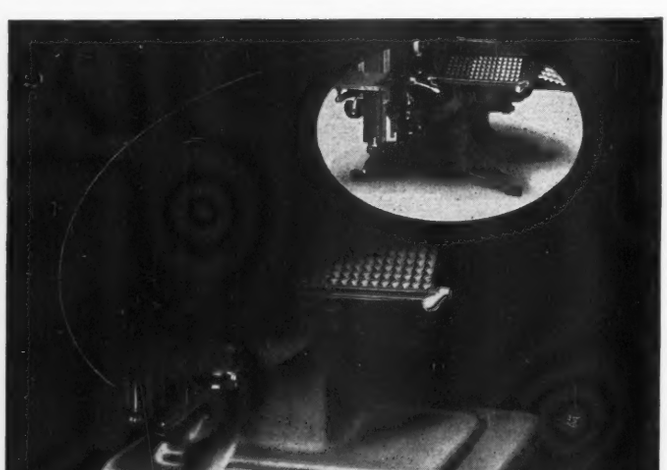
1. Ninety pounds heavier in weight . . . lower center of gravity . . . a better distribution of weight over a wider area . . . increased stability and improved balance . . . *less vibration.*

2. Greater freedom of movement for the operator in his position at the keyboard.

3. Easier cleaning under machine. Fewer hiding places for stray matrices.

All of which means, from the owner's viewpoint, smoother machine operation . . . greater comfort for the operator . . . more output . . . easier maintenance.

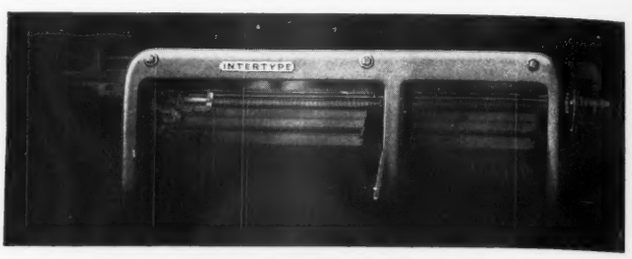
Is it any wonder that practical machine men have welcomed this new base with such unusual enthusiasm?



New Streamlined Intertype pedestal base

Consider, then, another streamlined Intertype improvement. This one was not assigned a special number in the list of 101 features, yet it is well worth mentioning . . .

NEW ONE-PIECE DOUBLE DISTRIBUTOR BRACKET



New one-piece double distributor bracket

Isn't this new bracket (see picture) much better looking than the old style construction?

Isn't it obvious that a heavier one-piece bracket is stronger and more rigid than a bolted bracket?

Of course. And it is equally apparent that the new streamlined bracket reduces vibration and eliminates any possibility of sagging . . . insuring a better and *permanent* line-up between the distributor and the channel entrance.

Hence . . . better distribution of matrices and, again, more dependable machine operation.

Now let's have a look at feature No. 5 . . .

IMPROVED FINGER-TIP MIXER SHIFT LEVER

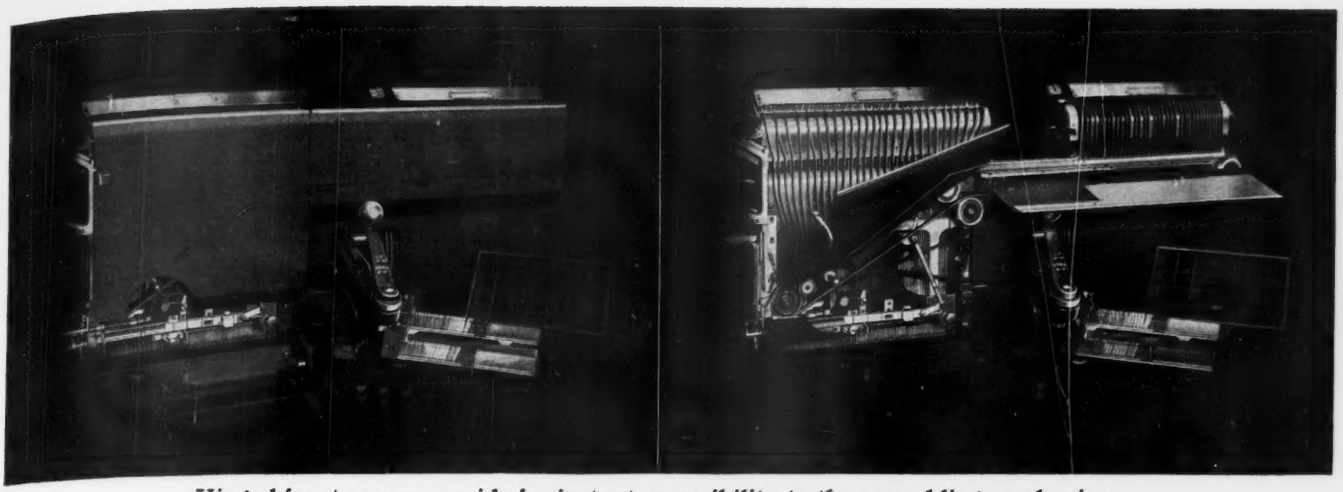
What could be simpler?

The flip of a finger changes *instantly* from one font of matrices to another.

And note the convenient new location of this lightning-quick control . . . right there at the left of the keyboard where the operator can reach it with minimum effort.

Most important of all, of course, is the amazing simplicity of the direct mechanical action which this lever controls . . . a movement of less than an inch in the position of the keyboard rods.

It is this feature . . . plus simplified distribution . . . that makes Intertype mixer machine operation so fast, smooth, and reliable.



Hinged front covers provide for instant accessibility to the assembling mechanism

It facilitates setting complicated mixed composition, such as food store ads in newspapers and other work in which different type faces must be used together in the same line.

NEW STREAMLINED FRONT COVERS

These new covers have several important advantages in addition to improved appearance:

1. They protect the operator's eyes and nerves from the distraction of moving parts.
2. They deaden the sound of these moving parts, thus shutting off another source of distraction.
3. They protect the assembling mechanism from accumulations of dust and other foreign matter.
4. They are attractively and permanently dull-finished in black, thus completely eliminating glare and further promoting eye comfort.
5. They are hinged, as you see, to provide instantaneous accessibility to all parts of the assembling mechanism.

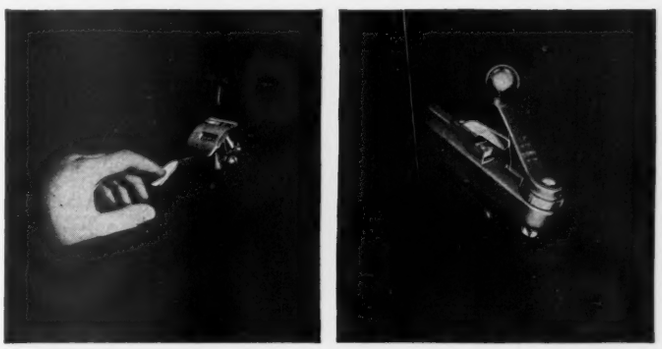
ONE-HANDLE CONTROL OF EIGHT MAGAZINES

Here's an old friend . . . tried and true . . . with two new contributions to improved machine operation.

It's the well-known Intertype light-action chain shift, used for shifting from one magazine to another. The new features are:

1. Easier shifting of magazines, due to a new method of counterbalancing the weight of the four-magazine unit.
2. A simple switch which changes the action from main to side magazines, or vice versa, making it possible to control eight magazines . . . four main and four side . . . with this one quick-shift handle.

It all boils down to (1) easier operation and (2) less mechanism to maintain.

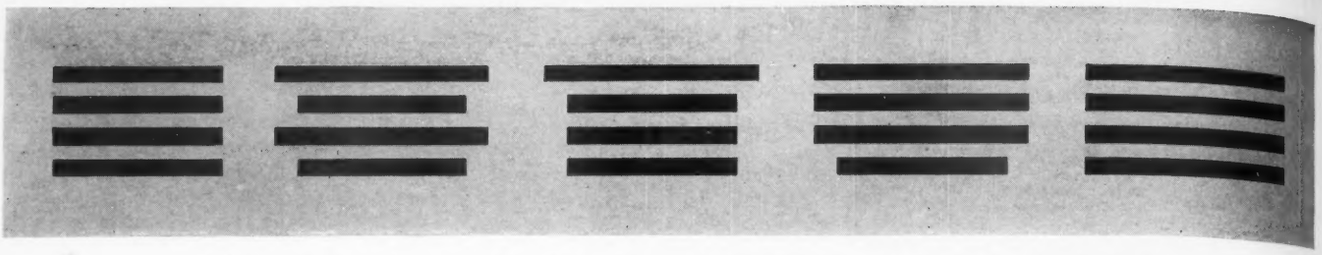


At the left is the finger-flip lever used for changing from one font of type to another on mixer machines. The other picture shows the handle used for shifting both main and side magazines

EASY FRONT REMOVAL OF ALL MAGAZINES

All Streamlined Intertype magazines are easily removed and replaced from the front of the machine. Sliding carriages support the weight of the magazines as they are brought forward and downward to a position where they are easy to lift and handle.

All magazines are easily replaced from the front



Diagrams of various combinations of standard and extra-wide Intertype magazines

Full-length or split magazines can be used in any position. The split magazines can be had in either the half or three-quarter length.

Side magazines, like the main magazines, are easily removed and replaced from the front.

SIX COMBINATIONS OF STANDARD MAGAZINES

Your Streamlined Intertype can be practically made to order to suit your special requirements. Note these magazine equipments:

1. Four standard 90-channel magazines. Mixer.
2. Four standard 90-channel magazines. Non-mixer.
3. Four wide 72-channel display magazines. Non-mixer.
4. Two 90 and two 72-channel magazines. Mixer.
5. One 90 and three 72-channel magazines. Mixer.
6. One 72 and three 90-channel magazines. Mixer.

Both types of magazines, 90-channel and 72-channel, are perfectly interchangeable on other Intertypes.

FOUR-DECK SIDE UNIT HAS MANY ADVANTAGES

Now let's turn our spotlight on feature No. 8 . . . the new Streamlined Intertype four-deck side unit.

Note that the side magazines are carried in a stack one above the other, the same as the main magazines, and that each side magazine has its own stub. Hence . . .

1. The side magazines and their stubs do not separate when the operator shifts from one magazine to another. Perfect alignment is maintained.

2. There is no chance that a stuck matrix, straddling the gap between magazine and stub, can cause trouble and damage when the magazines are shifted.

3. A full channel of twenty matrices can be carried if required . . . such as the em or en space matrices, for example . . . instead of only eight matrices.

TWO-LETTER 18 AND 24-POINT MATRICES

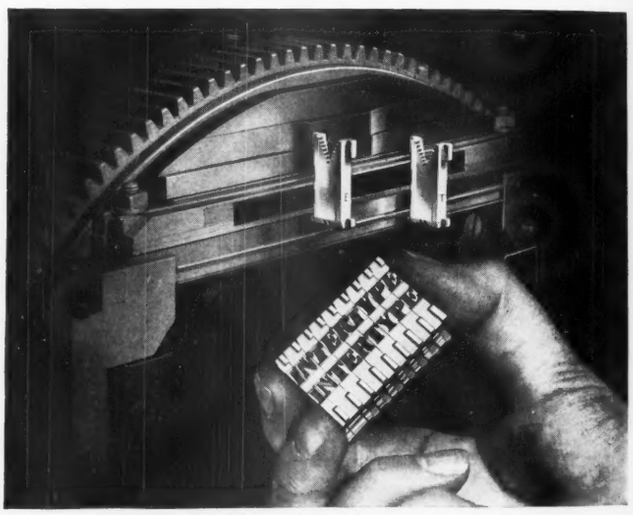
Here's a new Intertype feature that appeals alike to operators and executives. Briefly . . .

Intertype two-letter matrices are now available in sizes up to and including 24 point.

This means that two 18-point or two 24-point faces can now be carried in one Intertype magazine . . . a 100 per cent increase in the type face capacity of Intertypes equipped for these sizes of display composition.

Fewer magazines are required and there is less changing from one magazine to another.

No special mechanism of any kind is needed. The mold body used is exactly the same as the one used regularly for casting large display faces.



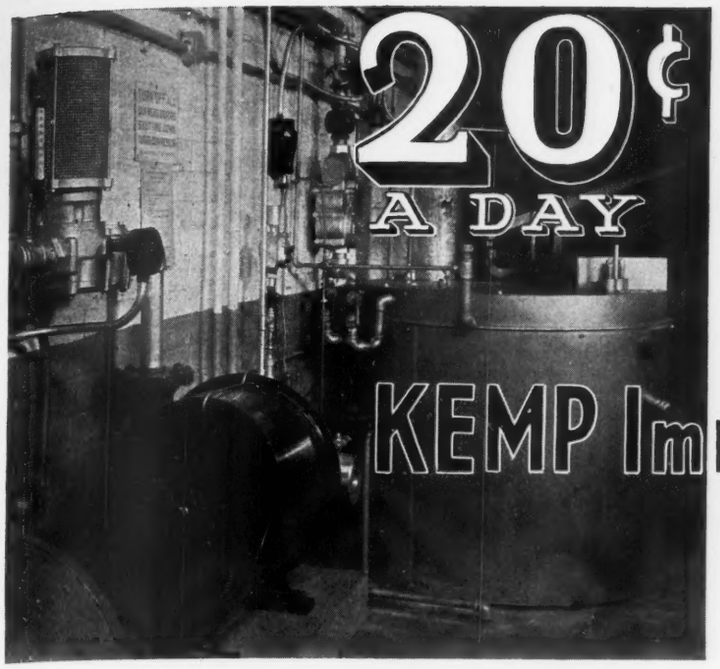
Two-letter 24-point matrices are now available

So now you have seen a few of the 101 features of the new Streamlined Intertypes . . . eight of them, to be exact. Wouldn't you like to examine the other ninety-three of these features? A complete list will be sent to you on request. Please address the nearest Intertype office.

INTERTYPE CORPORATION • BROOKLYN, NEW YORK

STEP AHEAD WITH STREAMLINED INTERTYPES

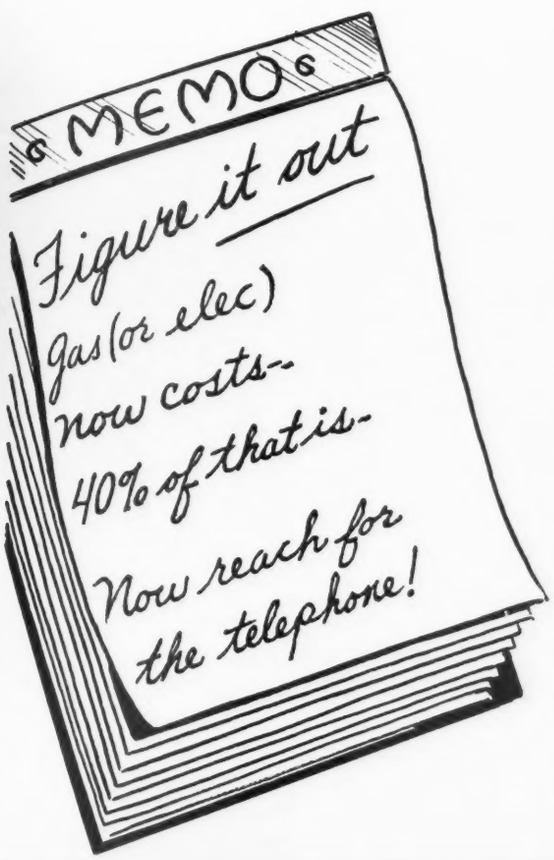
PRINTED IN U.S.A.



for Stereo Heating *and Still* *Pays*

You fellows who are buying high-priced fuel for stereotype melting, take notice. Down in Amarillo, Texas, where natural gas costs comparatively little, the News-Globe finds Kemp Immersion Heating a good investment. The publisher says:

> "Our installation of a Kemp Immersion stereotype unit of five tons capacity has proven completely satisfactory. Entirely aside from its remarkable economy of operation (our gas bill now averaging about 20c per day) we are particularly well pleased with the close regulation of temperature and reduction of dross formation, all of which helps toward the production of the well printed newspaper for which we are justly proud."



As you well know, Kemp guarantees to save 40 percent in fuel, but with many publishers, as obviously in this case, fuel saving is only one, and not necessarily the most important advantage.

Now stop a minute and consider how much more Kemp might save you. Reach for your pencil, we put a memoradum pad in this ad for your figuring . . . Then write **The C. M. Kemp Manufacturing Co., 405 E. Oliver St., Baltimore, Md.**

KEMP of BALTIMORE

COMMENTS from USERS of MATRIX CONTRAST

Names and Complete Letters Are Available on Request

We do get increased production as a result of the time saved in correcting errors.

The Black & White matrices do produce cleaner newspapers ---much cleaner.

Black & White mats help the operator to do good work and they conserve his eyes.

The checking of lines is made effortless by the ease with which the Black & White lines can be read. This is done automatically and does not slow up production.

When edition time comes we are able to save time by railroading forms when necessary. The Black & White matrices give us a sense of security in this respect, and we really save considerable time.

There is no doubt in our minds that the Black and White service tends to reduce typographical errors, and that it also assists in increasing our machine production.

Not only an economy in the reduction of errors...production within the last few hours of the day is not slowed owing to eyestrain.

The saving in errors more than pays the expense for the Black & White process.

I consider Matrix Contrast indispensable on the score of reducing errors and as a protection to the eyes of the men.

In the ad room we have cut down our corrections fully fifty per cent. With the increased linage gained by not having to set so many correction lines, I was able to run with one machine dark.

In our early editions, where we must railroad matter after a certain time, we find that we have a cleaner paper, due to operators correcting errors in the assembler before lines are cast. This has not slowed up production.

The Old Way and The New Way

● **Send for Booklet and Complete Information on Black and White Matrix Contrast Service.**

MATRIX CONTRAST CORP'N

Main Office: Empire State Building, New York

Sole Licensees of the Percy L. Hill Matrix

CONTRAST PATENTS NOS. 1,466,437 AND 1,796,023

ANPA
MECHANICAL
CONFERENCE

CHICAGO

DRAKE HOTEL
JUNE 7, 8 and 9

Slug Trimming Knives—I

By MAC SINCLAIR

Difficulty in adjusting side trimming knives on line-casting machines sometimes due to remote causes—Knife grinding is a precision operation.

IN AN article of this kind it is impossible to impart the skill necessary for the doing of the operation described. Skill must come with experience. On account of the peculiarity of the slug-trimming mechanism on line-casting machines and the inability of some to recognize remote causes, the best that can be done is to transmit the principal causes which will prevent adjusting the side trimming knives properly.

The difficulty in setting side knives properly does not lie in the knives so much as it does in the condition of the various machine parts associated with the casting and trimming operations. For instance, if the mold body and cap are warped, it would be difficult to adjust the knives satisfactorily. If the mold disk locking apparatus is not in good shape, then it will be impossible to adjust the knives to trim the slug true. It is not to be assumed that all of the notations in the accompanying list will prevent setting the knives in every instance, but sometimes one or more of them will be the cause of your inability to secure parallel trim of the slug.

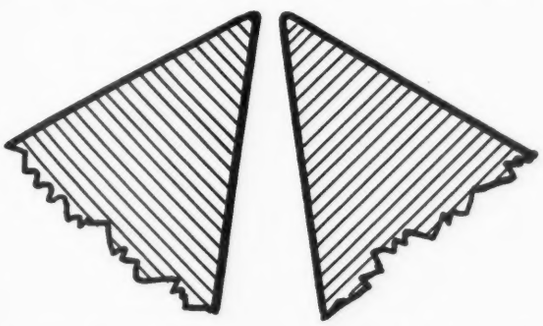


Fig. 1.—This diagram represents a highly magnified cross-section of the cutting edges of side trimming knives. The cutting edges should not be razor-like but should be microscopically rounded as shown here. A hardwood stick stroked end grain the full length of the knife may be used to round its edge. Complete each stroke of the stick throughout the full length of the knife with some pressure.

Stating it in a different way, it is not so difficult to adjust side knives when all machine parts related to the trimming operation are in normal condition. However, it is quite another matter to adjust knives when one or more parts are in abnormal relationship to the knives.

Contrary to most cutting or trimming operations in printing metals, the trimming knives on a line-casting machine are stationary at the time of trimming a slug. The knives do not revolve nor do they advance against the slug. Neither is the slug supported on a bed of any kind while being trimmed. The trimming of the slug is accomplished by an ejector blade bearing against one

(*Continued on Page 19*)

The Human Element

It is unpleasant to say that many composing room executives do not permit time enough for proper composing machine maintenance. "The machines have been carefully built," they argue, "and therefore should turn out a printable product." The real reason, no doubt, for not allowing sufficient maintenance time is to try to keep production hours filled to the utmost.

Knife settings on line-casting machines should be checked frequently. Such checking will conserve make-ready time on expensive presses. The proper way to reduce nonproductive press time is to stop the cause at its source. If it is necessary to correct printing plate dimensions it is just as vital that the dimensions of composing machine products be controlled.

Means exist on the machine for controlling slug dimensions and only one thing is needed to make that control effective—the human element. It is quite certain that the most conscientious machinist or machinist-operator will not care to assume this responsibility unless encouraged to do so by his superior officer. Knife sharpening and mold straightening expense are cheap items in composing room operation when compared to standing time of presses. Then there is the little matter of keeping letterpress printing on a high plane.

Employment and Service Department

for Readers of

Printing EQUIPMENT *Engineer*

Employers, production and mechanical executives may insert notices in this department.

Items for this department may pertain to the following subjects: "Executive Wanted," "Association or Partnership Wanted," or "Position Wanted;" readers referring to subjects of a personal nature such as obtaining information about addresses of executives, supplying copies of technical articles and magazines, patents for sale or requests for contacts for developing and/or financing of inventions.

Any reasonable request from an employer or mechanical executive for the printing of a notice upon a subject other than the ones listed above will be granted.

Notices may be printed under the following regulations: First insertion (maximum six lines) is free of charge. All subsequent insertions of the same item subject to a charge of 75c per line in advance.

Address all communications with box number to *Printing* EQUIPMENT *Engineer*, 1276 West Third St., Cleveland, O.

STEREOTYPE FOREMAN—Experienced as foreman in charge of large and small plants. Efficient in all branches of stereotyping. Economical, temperate, married. Now employed. Wages adjustable. Reply Box 14.

MANUFACTURER WANTED—Wish to contact manufacturer to promote and sell device called "Platen Press Tympan Reel" on royalty basis. Eliminates baggy, slipping tympans. Reply Box 15.

COMPOSING ROOM FOREMAN—Now employed, seeking new connection. Age 35. Reliable executive, competent in every department. Thoroughly experienced in handling men. Am responsible and achieve results with lowest possible costs. Excellent references. Reply Box 16.

WEB PRESS—STEREOTYPE SUPERINTENDENT—Desires a change. Have good reasons for leaving. Have had 20 years' experience. Reply Box 17.

EXECUTIVE WANTS POSITION—Somewhere there is a publisher who has a place for an executive capable of relieving him of mechanical production worries. Experienced on large and small papers. Position he wants is that of mechanical superintendent or composing room superintendent on a daily newspaper. Married. References. Now employed. Reply Box 18.

FLEX TYPE

Continental Typefounders Association has announced a new type face which is called "Flex." It is made in sizes running from 30 pt. to 60 pt., with the 72 pt. size in preparation. Flex type face was designed by

Flex A 1937 Leader

Georg Salter. Said to be appropriate for advertisement composition, stationery, broadsides and display cards and for titling letter for periodicals. Can be used in reverse. Showings will be sent to any readers of *Printing* EQUIPMENT *Engineer* upon request.

HAMILTON ISSUES CATALOG

The Hamilton Mfg. Co. has issued a complete catalog of printers' furniture and accessories. The catalog consists of 72 pages and cover and is completely illustrated. Particularly new items in the catalog are machinists' work benches, Intertype and Linotype magazine storage cabinets, Monotype equipment, galley cabinet, roller cabinet, imposing tables and type cabinets.

Major distribution of the new catalog is being made through dealer organizations, but the Hamilton Mfg. Co. will be glad to send a copy direct to anyone upon request.

Editorial

Executive Obsolescence

THE mechanical executive, for peculiar reasons and by the nature of his vocation, is somewhat of an individualized element in the printing plant. He's an important part of the organization which has been assembled for the manufacture of printing. His situation, oddly enough, can't be classed in either one of the two groups with which he is associated in his daily work. He's just a sort of buffer between the two. On the one hand, he mustn't become too intimate with the men who work for him else he will lose the coveted discipline necessary to successful administration. He musn't borrow money, shouldn't gamble, shan't drink nor hob-nob socially with certain of the group of men over which he has supervision for reasons which become apparent if he disregards one or more executive commandments. The production expected of every employe can't be maintained, unfortunately, when the executive lets down the bars on these things.

On the other hand, the interests of the people in the front offices are not altogether amenable to his interests. Being a supervisor of men and machines, his thoughts constantly bear down upon ways and means for producing the company's products at a manufacturing cost which will enable his employer to collect a fair margin of profit. The employer's chief interest in his mechanical executive is to discuss ways and means for producing the work at an economical figure, because after all, the employer is in a field where there are one or more competitors who might produce a similar article at a lower price and at a fair profit. Right there the common interests of the employer and his executive terminate abruptly.

The grounds for common interest between supervisor and employe are limited. The same observation applies to the front office executive where the interests of management are divergent from the many problems of the production department, as important as they are.

The average employe in the printing trade has concentrated upon his particular kind of work to such an extent that he is a specialist. His only common interest with his supervisor would be to discuss his specialty which is just one of the many specialties engaging the mind of the production executive.

No one means to intimate that as a consequence of the situation in which the mechanical executive finds himself that he should set himself up as a little tin god or any other idolatrous image which might appeal to his fancy.

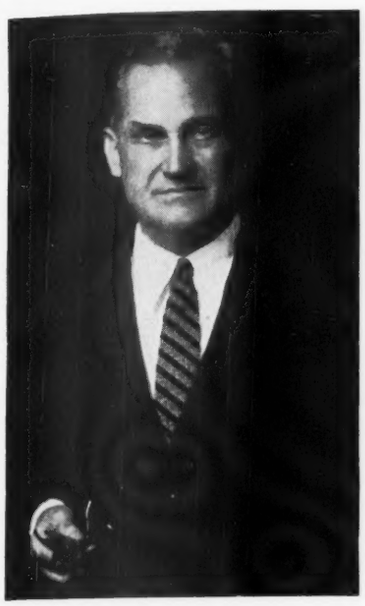
Goodness knows, production executives are human beings. They enjoy the things enjoyed by the average man but with whom and on what occasions these desires are satisfied is another matter.

The important thing, however, is that a large portion of the production executive's time should be taken up in fortifying his technical knowledge. The production executive can become obsolescent just like printing machinery. An obsolescent executive is a sad spectacle. The always changing nature of the processes involved in his profession are a constant challenge for mastery.

If he doesn't familiarize himself with important developments he loses caste quickly. Other progressive executives will supersede him because they will have discovered the things which help to reduce production costs or insure a better product at the same or less cost.

Christian Steidinger

WHETHER you agree with him or not, Christian Steidinger is a living example of the spirit of true Craftsmanship. Perhaps some of his pungent observations respecting printing presses, profits in color printing and "stunt" work might not accord with your own views, but the spirit of Craftsmanship seems



Christian Steidinger talks the language of the production man.

to dominate this letterpress color authority who has spoken before several Craftsmen's Clubs.

During the course of a recent talk he stated that the Printing Industry had been good to him. Through it he has prospered and in return he feels it no more than right that he repay this obligation to the industry by passing on to Craftsmen's Clubs technical information which will be of practical use to its members.

It doesn't matter that Mr. Steidinger is able to afford speaking engagements. The point is, he acknowledges his grateful appreciation by passing on practical technical information gathered together over a long period of time.

He acquired control of an almost bankrupt concern after becoming fifty years of age and built from it a successful business. This is an inspirational chapter for many men who have "given up" at even an earlier age. His present activity in repaying his "debt" to the industry is unique.

ON EUROPEAN TRIP

Louis Pleninger, Manager of the Export Department of American Type Founders sailed on the Berengaria in the early part of March for an extensive business trip taking in Great Britain, Holland, Belgium, and the Scandinavian countries.

18TH ANNUAL CONVENTION

INTERNATIONAL ASSOCIATION OF PRINTING HOUSE CRAFTSMAN

AUGUST 8-9-10-11, 1937
HOTEL CLEVELAND

Exhibitors' Space at Chicago Conference

Manufacturers and suppliers wishing to show equipment and supplies at the A.N.P.A. Mechanical Conference, which will be held at the Drake Hotel on June 7, 8 and 9, should make arrangements for space with A. J. McAllister, Convention Manager, Drake Hotel, Chicago. Charge for space is $15 per booth. The arrangement of the hotel is such that the convention hall and exhibit space are on the lobby floor. Entrances are grouped at the end of a corridor.

Mr. McAllister states that booths will be assigned in order as applications are received, and from whom specific details can be obtained upon application.

Letters To The Editor

All Should Have Cost System

Dear Editor:—In my opinion L. E. Bauerfeind is absolutely correct in saying every composing room should have a system of cost figures. No cost system, which means a break up of the pay roll as to situations can be accurate unless it ties into the general books. His efficiency inch basis of measuring work seems to be a matter of theory and is not practical. It might work on news matter; ems can be used as a basis just as well. It is not practical for ads. How can the efficiency inches set by each man be ascertained on a large ad without endless work when it is set by several linotype operators and then assembled by a compositor? The only way a proper cost and efficiency system can be installed is for an accountant who is familiar along newspaper lines to actually spend about six months in a plant studying conditions and working up the system a step at a time.

Geo. W. Holloway, Supt. Composing Room
Nashville *Banner*.

Wants Information

Dear Editor—I have just completed reading an article in the March issue of *Printing* Equipment *Engineer* entitled "Executive Cost Control," by L. E. Bauerfeind. The article is well written but the facts as stated is a different story.

An example is given of a 16-page, 8-column, 21-in. newspaper supposedly produced at a cost of a fraction less than $6 a page. . . . I do not believe there is a newspaper printed, carrying news and the average amount of advertising, that is produced for less than $6 a page. If so, I am open for information.

Roy Powell, Supt.,
Evansville (Ind.) *Courier*.

Information for Mr. Powell

Dear Editor—I read with interest Mr. Powell's letter. There is only one answer to be made to any criticism of this kind: It *is* being done.

The figures quoted in my articles are accurate, furnished me through the courtesy of W. F. Thompson, Mechanical Superintendent of the Austin (Tex.) *American-Statesman*. The section under discussion by Mr. Powell uses a wage rate of $1.00 per hour and an eight-hour day. The wage rate of the *American-Statesman* is $1.12½ and the men work seven hours.

It is nothing unusual for an edition of this paper to be produced for less than $6 per page. The cost per page for the week ending May 9, 1936, was $5.89. It has been as low as $4.40 which was the cost for the week ending July 18, 1936. Most of the time it is well under $7 per page and the cost per page for the whole year of 1936 was only $7.03 per page for labor.

I am sure the *American-Statesman* may be classed as a "Metropolitan Newspaper." It carries full news coverage, using Associated Press, United Press, Universal and International wire services as well as many, many features.

The newspaper contract with Austin Typographical Union, No. 138, calls for 1890 lines of seven point type cast on a 7½ point slug in a

(*Continued on Page 55*)

Light Pervades Plant

By STAFF WRITER

New structure erected for Clarke & Courts, Houston, Texas, built with especial regard for peculiar requirements of printing production.

THE new building of Clarke & Courts in Houston, Texas, houses a complete plant for the manufacture of graphic art products. Its departments include letterpress printing, lithographing, embossing, engraving and bookbinding. A section of the building is devoted to a stationery and office furniture store. From the plant and office at West Clay and Eberhard streets, a territory embracing Texas, Louisiana, Arkansas, Oklahoma and New Mexico is served. The company also maintains establishments in Galveston and Dallas, Texas.

The new building occupies a land area of 180 ft. by 220 ft. The garage, machine shop and other buildings are on another portion of the lot which covers a space 200 ft. by 360 ft.

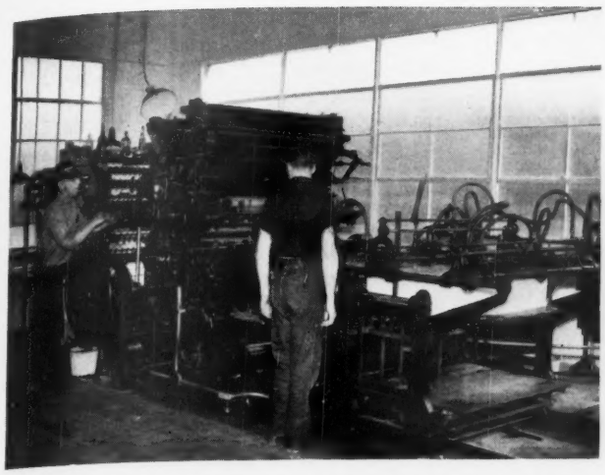
The editor of a prominent architectural journal asserts that the design of structures to house printing plants places stringent demands upon the technical resources of the architect. These demands have been met by Joseph Finger, Inc., architects, in the design and erection of the monolithic concrete building erected for Clarke & Courts. The design of the building is such that it will resist heavy press vibration. The plant is so constructed as to maintain uniform humidity. Maximum light area for production operations has been provided.

Special precautions were taken to eliminate building expansion cracks. Shellacked plywood lined forms were used to give a smooth exterior wall on which decoration and letters were formed with plaster cast molds. Interior partitions are constructed of hollow clay tile. Cement flooring prevails in the production departments. Terrazo is used in the display portions and asphalt tile for the offices.

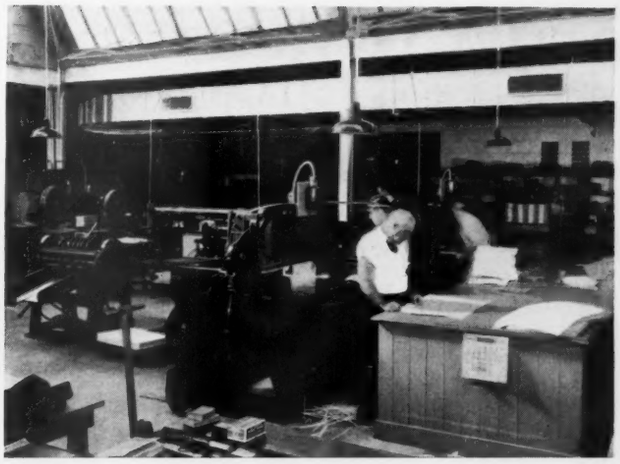
The glass used in construction of the building is known as "Coolite" which is smooth on the inside surface but has a prism mold on the outside. This glass diffuses the light as it passes through. In addition to diffusing the light, it also retards the heat rays, thus making the interior of the building cooler than would be the case if ordinary glass were used. The glass in the monitor windows, however, is the same type but is a wired glass which does not have exactly the same outside effect. During the summer months the light passing through this glass really is too intense. This was overcome by painting in stiple finish the interior surface of the monitor windows with white paint.

Partial view of the letterpress printing section in new plant of Clarke & Courts, Houston, Texas. Here are shown two Miehle Vertical presses and two Miehle 38 in. by 50 in. flat-bed presses. At extreme rear is shown part of Wilsea paper conditioning unit. The skylight and ample window area in the side walls provide generous light for daytime operation.

Heating is furnished by steam boiler, gas fired. Provision has been made for future air conditioning. The factory rooms are large, light and well ventilated. Shower baths are provided for all employees. All rooms are insulated.



View of Harris 28 in. by 42 in. offset-lith press in new plant of Clarke & Courts, Houston, Texas. Being located in a corner of the factory space, plenty of light is available at all hours of the day.



In the new plant of Clarke & Courts, Houston, Texas, is a modern bindery. The section shown above contains Seybold and Dexter cutters, Latham punching machine, Hoole paging machine and Wire-O binding and other equipment to be found in a well-equipped bindery.

The front part of the building is occupied by the general and private offices and a display room for office furniture. The various factory units are located in one large room, except for the photographic and developing rooms. A mailing and shipping room as well as a store room is located in the rear of the building.

The offset-litho method used at Clarke & Courts reproduces from drawings and photographs by the Camera and Directoplate process on metal press plates. This department has complete equipment which carries the work from the drawing table to the offset press units. All of the platemaking work is done in the plant. The platemaking department is isolated from the plant and consists of a camera room, a dark room and Directoplate room.

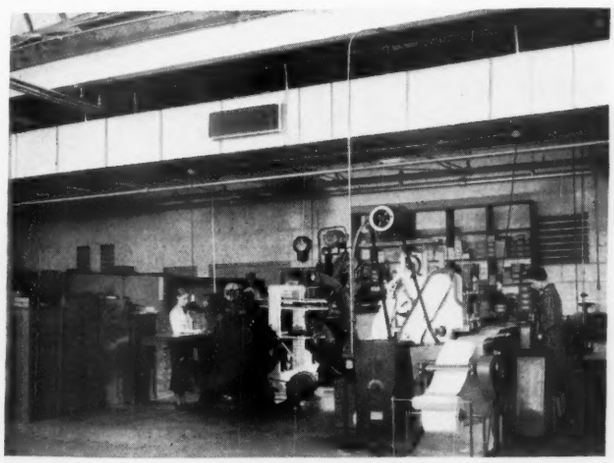
The embossing and engraving department consists of engraving machines, embossing and plate presses and in addition contains a modern Rose Production Unit for power embossing presses which is used in connection with a late model Waite inverted embossing machine. This equipment is said to be the only one in the entire South. The Waite inverted embossing machine is made in England and was on display at the Century of Progress exhibition, where officials of Clarke & Courts bought it. The equipment operates in one or two colors. This department produces letterheads, envelopes, diplomas, wedding invitations and announcements, visiting and business cards.

A Linotype, two Monotype keyboards and two Monotype casters are in use in the letterpress printing department as well as other latest equipment. Practically all of the type used is cast in the plant.

Perforating, folding, wire stitching and trimming operations are done in the bindery. The latest equipment will be found in this department including cutting, perforating, folding, wire stitching and paging machines. In this department there is also used Wire-O binding equipment for binding checks and advertising booklets.

The bindery also produces blank books with patent back and special bindings.

In this department deed records for the use of counties are made in large quantities.



This is a view of the embossing and engraving department in new plant of Clarke & Courts, Houston, Texas. Here (at left) are shown Carver embossing presses. Note the air conditioning duct. The Rose Production Unit is a new machine which feeds paper from rolls to the Waite Inverted Embossing Press. Fitted into the machine is a knife so arranged that as the work is produced the sheets are cut to finished size. After being cut, the sheets pass onto a revolving belt which conveys them through to a heating unit to dry the ink immediately. After the job is made ready, the machine can be operated by one person who can watch the impression, inspect the sheets, remove any imperfect ones and box the completed sheets as they are delivered from the machine. At the right is a new Rose Production Unit with Cutler-Hammer control used in connection with Waite Inverted Embossing Press.

FRANKLIN GOTHICS

In step with the trend toward the sturdy plain Gothics that has been manifesting itself in national advertising, and in anticipation of a growing demand for such faces, the Mergenthaler Linotype Company offers Franklin Gothic in a full range of sizes, as well as Franklin Gothic Italics and Franklin Gothic Extra Condensed. Many sizes will be available for keyboard Linotypes, and those from 18 to 144 point for the All-Purpose Linotype.

Now Is The Tim

Now Is The Tim

Now Is The Time for Al

"This growing revival of sturdy Gothics, and particularly Franklin Gothic," says C. H. Griffith, vice-president in charge of typographic development with the Mergenthaler organization, "has been gaining momentum in recent months. National advertisers in leading magazines have been bearing down hard with it in many of their displays. It continues to pack its old time wallop, and we anticipate an increasing demand for it in the weeks and months ahead."

Matrix Recovery

By B. F. GARRITY*

"Periscopic" waste can confines waste and keeps the floor free of slugs.

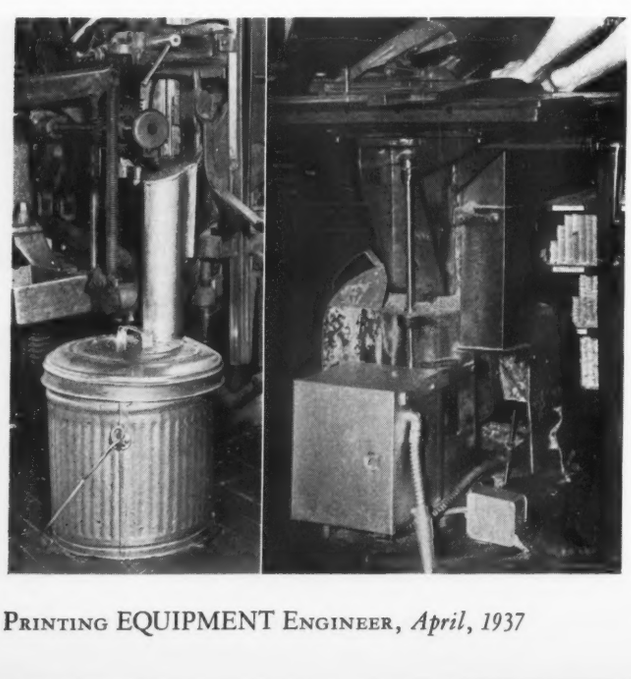
THE claim has often been made that "Necessity is the mother of invention." I feel sure, after you have read the following description of two mechanical contrivances which have been made at the Hartford *Times*, you will agree that there must be considerable truth in this claim. We have known for some time that we were losing a great many Linotype matrices. We tried to overcome this problem by sifting the metal from under the machines and felt we had accomplished a great deal by the number of mats recovered. However, we discovered we were not getting a complete recovery.

While using one of the new Monomelt Dross Sifters on composing room dross, our metal man found we were losing matrices on the ten ad machines. These machines are equipped with Mohr Lino-Saws. Each of the machines was supplied with a coal hod for catching the cut-off slugs. All of the waste ends of slugs are supposed to drop automatically into the hod but quite often drop on the floor instead. The accumulated waste slugs on the floor plus the hazard of the open-top hod trapped a number of matrices each day on each machine.

A consultation was held. Several ideas were discussed. It was necessary to make something that had no opening on the top so as to prevent the matrices from falling in. It had to be high enough to meet the slug chute that takes the waste slug end across the front of the machine and still allow for opening the machine vise without first removing the container.

After considering all of the suggestions, I told our plant machinist, Edward Brule, to take over this job. He had heard all the arguments, pro and con. He went to work and as a result his solution of the problem seemed to cover everything we were trying to do to prevent matrices from getting into the dross. The device worked so well that Eddie Brule had created the job for himself of making nine more.

*Mechanical Superintendent, The Hartford *Times*.



Like a great many other things, there is no difficulty involved in making one of these waste catchers after the other fellow has ironed out all the kinks. It is necessary to purchase a galvanized iron garbage can with cover. In this cover you cut a round hold 3 in. diam. You then procure a short piece of 3 in. metal tubing (the length is governed by the model of the machine). By cutting slits in one end of this tube to a depth of about 1 in. all around and spaced 1 in. apart, it will be possible to bend these 1 in. sections between each cut flat enough to provide a means of fastening the tube periscope fashion to the cover of the can. Before fastening the tubing, however, you should cut another slit in the top of the tube, the vertical face of

Arthur E. Dent
Plant Electrician

Edward Brule
Composing Room Machinist

Both of these gentlemen are with the Hartford (Conn.) *Times*.

which is to face the waste chute opening on the machine. This slit should be the same length as the waste chute opening, and at the bottom end of the slit in the tube cross-cut the tubing with a slot wide enough to cover the width of the opening. This will allow you to bend out both sides of the slit, making an opening for the waste slugs about 1½ in. wide. After riveting the tube to the garbage bucket cover, all that is necessary is to cut out a piece of tin to fit the top of the tube and solder it around the edges.

The only trouble we have experienced has been when the boy, in emptying the can, becomes careless in replacing the cover and is not particular to see that the opening in the tube is directly opposite the chute on the machine. We have placed two curved metal strips on the floor which takes all the guesswork out of placing the can, but as the cover is removable from the can it is quite necessary that a little care shall be taken in returning the cover.

Another improvement we credit to this arrangement is a noticeable difference in the lack of refuse that we find in the metal when it is shoveled into the furnace. By sealing up the top of the garbage cans, we find we have not only kept out the matrices but also the paper clips, cigarette and cigar butts, waste paper, pieces of food, fruit skins and have also fixed the container so that it can never be used again as a cuspidor.

I feel this improvement has a beneficial effect upon the condition of our metal in addition to the saving in matrix expense and improvement in sanitary conditions.

Another very fine improvement we have made here recently is, in my opinion, well worth talking about. It was perfected by our plant electrician, Arthur E. Dent. I discussed the subject with him as to whether

(Continued on Page 54)

Slug Trimming Knives

(*Continued from Page 13*)

side of the slug base while at the same time it pushes the slug between two stationary knives.

Price of Accuracy is Vigilance

In many composing rooms, especially those doing trade composition and publication work, it is customary to check slug measurements frequently. In one plant slugs are checked after every change of liners. This is deemed necessary because of the liability of inserting two dissimilar body-size liners and because a slight amount of dirt or metallic sliver might be lodged between liner and mold. On fairly long runs, in another plant, the slugs are checked for accuracy twice on each shift. However, before checking measurements, the operator casts several slugs to warm the mold to average temperature such as would occur after the machine has been in operation for a while.

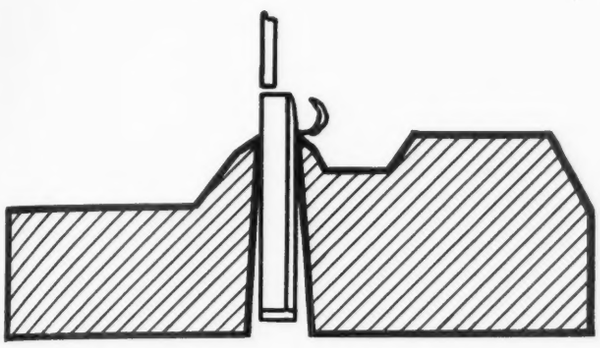


Fig. 2.—The ideal condition. Actually, the trimming of the slug to size is done on the rib side while the left-hand knife (after it has trimmed off fins at the top of the slug) acts importantly as a support for the slug against the pressure caused by the cutting action of the right-hand knife which trims or shaves the ribs to size. When abnormal conditions are not present, as explained elsewhere in this article, the right-hand knife will trim the ribs exactly parallel with the constant side of the slug, without "bumping" or "bottling" the lower portion of the slug ribs.

Speaking of mold temperatures at a given casting speed, and its relation to accurate slug trim, a machinist in a certain composing room is encouraged to maintain the machines in such condition that the slugs will be accurate at all times. He states he has found it necessary to change the right-hand knife adjustment slightly on days when a slow operator is substituting for a more rapid operator. Rather a fine distinction, isn't it? However, it should be taken into consideration in plants demanding uniform slug measurements for a given body size.

Use 30-Em Slugs

On a 30-em machine it is preferable that the knives be adjusted from 30-em slugs rather than from a shorter measure. The matrix line for use in recasting while setting the knives can consist of lower case letters only, with ascending characters opposite the ribs, such as lower case *d*, *b*, *l*, etc. Some machinists have been known to use an all-cap line for this purpose. Since the bulk of composition consists of lower case letters, adjustment of knives from cap lines would not yield best results, especially with respect to adjustment of the left-hand knife. The objection is that some matrix faces cast a heavy draw on the constant side of the slug. The cap line, therefore, would not permit accurate knife adjustment for average composition.

Replacing and Adjusting Knives

Instructions for adjusting side trimming knives on line-casting machines seem to be simple enough. In fact, if molds are straight and clean and have been properly mounted in the mold disk, and the knives have been properly ground, the operation is not difficult. As is intimated elsewhere in this article, a warped mold will certainly prevent setting side knives properly. Worn

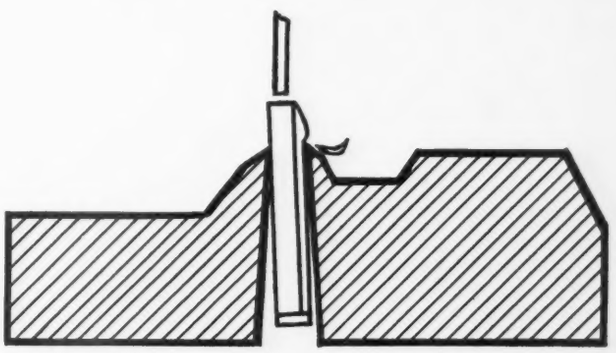


Fig 3.—Diagram shows slug as it has passed nearly through the trimming knives. In this case the knives are too sharp and permit the slug to skew off the right-hand knife. The left knife gouges into the slug body. The "balanced" drive of the slug between the knives does not exist because there is little or no resistance in the sharp knife edges.

mold disk locking studs and stud blocks likewise will prevent accurate knife settings. Dirt or metal chips will cock molds and knives out of relationship with one another and will interfere with proper knife adjustment. Cleanliness of machine parts is the important thing.

Hand Lapping to be Discouraged

Hand lapping of side trimming knives should be discouraged in the case of the average machinist because lapping blocks and stones do not retain true plane surfaces over a very long period of time. There is a technique in the lapping operation which cannot be acquired readily. Then, too, time limitations in many plants prevent proper hand lapping. Usually, the state of wear in a knife is such that it ought to be ground by machine anyway.

(*Continued on Next Page*)

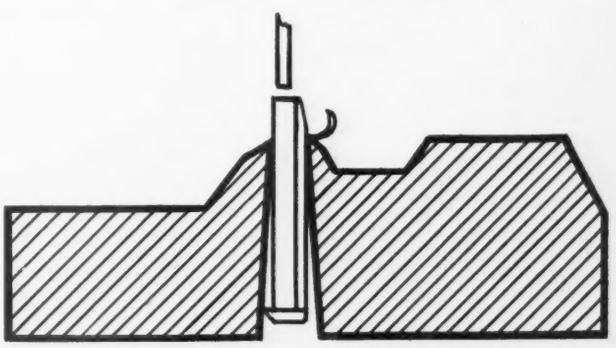


Fig. 4.—In this diagram the left-hand knife is not set close enough to the constant side of the slug. As a result, the draw was not trimmed flush with the slug body. The draw bearing against the tapered surface of the left-hand knife, tips the slug as it passes between the knives so that the right-hand knife trims the ribs on an angle to the smooth side of the slug, resulting in what might be called a "bottled" slug, *i.e.*, thinner at the bottom than at the top.

Point System	NAMES OF TYPE SIZES—OLD SYSTEM	American Type Founders Body Standards. Decimals of an inch.	Line Casting Machine Slug Body Measurements. Decimals of an inch.
1	American	.01383	.014
2	Saxon	.0277	.028
3	Brilliant	.0415	.042
4	Excelsior	.0553	.056
4½	Diamond	.0622	.063
5	Pearl	.0692	.070
5½	Agate	.0761	.077
6	Nonpareil	.0830	.084
6½	Emerald	.0899	.091
7	Minion	.0968	.098
8	Brevier	.1107	.112
9	Bourgeoise	.1245	.126
10	Long Primer	.1383	.140
11	Small Pica	.1522	.154
12	Pica	.1660	.168
13		.1798	.....
14	English	.1937	.196
15		.2075	.....
16	Columbian	.2214	.224
18	Great Primer	.2490	.252
20	Paragon	.2766	.280
22	Double Small Pica	.3044	.308
24	Double Pica	.3320	.336
26		.3596	.....
28	Double English	.3874	.392
30	Five-Line Nonpareil	.4150	.420
32	Double Columbian	.4428	.448
34		.4703	.....
36	Double Great Primer	.4980	.504
40	Double Paragon	.5532	.560
42	Seven Line Nonpareil	.5810	.588
45		.6225	.630
48	Four Line Pica	.6640	.....
54		.7470	.....
60	Five Line Pica	.8300	.....
66		.9130	.....
72	Seven Line Pica	.9960	.....

Error List

The following error list is not to be considered as containing frequent or common causes for inability to obtain true trimming knife adjustments. As has been stated above, many machinists and machinist-operators are familiar enough with the means of knife adjustment—they are also familiar with the micrometer-caliper—but many do not comprehend that related parts nor abnormal conditions may totally prevent adjusting side knives properly.

Extremely dull knives.

Bowed left-hand knife.

The left-hand knife sometimes is sprung out of shape because of rough treatment in cleaning out a metal squirt, incredible as this may seem. Pounding at squirt metal which has flowed about the knife with a screwdriver and hammer has been known to distort the shape of the knife.

A left-hand knife can be pulled out of shape when applying it in place of a dull knife because the vise casting does not conform to the plane surface of the knife base or *vice versa*. When the knife holding screws are pulled up the knife body pulls down to the surface of the vise casting. Likewise a contusion on the knife base or vise casting, or a chip of metal lodging between the knife base and vise casting will act as a fulcrum to pull the knife out of shape when the holding screws are tightened.

Left-hand knife rubbed by ejector blade.

This condition is caused by worn mold disk locking studs and stud blocks which permit the constant side of the mold to be positioned out of alignment with the cutting edge of the left-hand trimming knife. Another cause for this condition is that the mold disk locking stud blocks in the vise frame are not positioned correctly in relation to the constant side of the mold body. A clearance of 0.004 in. to 0.007 in. should exist between the ejector blade and the constant surface of the mold body.

Incorrectly angled knives.

Trimming knives should be ground with a receding angle of ½ deg. from the cutting edge of the knife to its base. A greater clearance makes it difficult to secure parallel trim of the slug from top to bottom. Insufficient clearance (less than ½ deg. angle) causes hard ejection and a coating of metal from the slug to adhere to the knives.

Dirt or metal chips under knives.

When a new pair of knives is applied to the machine, the knife seating surfaces must be scrupulously clean. Any dirt or metallic substances will cock the knife out of position.

Operator forgets to adjust the knife block handle for slug size.

Occurs when changing from large to smaller size body.

Right-hand knife tilts inwardly during impact of slug.

This can be caused on very old machines by a worn knife slide and gibs on the Linotype or by a weak right-hand knife draw-down spring on an Intertype.

Knife block mechanism not properly lubricated.

Comment unnecessary, except to say the right-hand knife should follow freely any movement of the knife block adjusting lever.

Knives are too sharp.

This may seem to be a paradoxical condition. If the knife edges are too keen, the edges will "dig into" the slug and it will be hard to adjust both knives for accurate trim. This condition can be remedied by drawing carefully a hardwood stick, end grain against the knife edge, the full length of the knife. The hardwood stick will remove any tiny burrs and round off the sharp razor-like edge. Trimming knives function best when their edges are microscopically rounded so as to provide a slight resistance to the movement of the slug. This is equivalent to pressing down upon a flat object while it is being pushed along a plane surface in order to keep that object in contact at all times with the plane surface. In drawing the stick with pressure along the knife edge, start at one end of the knife and complete each stroke fully throughout the entire knife edge.

Knives have not been burnished after grinding.

After a knife has been ground, the newly-ground surface should be burnished with a polishing wheel to remove the grain marks of the grinding wheel. Grain marks in the knife scrape metal from the slug as it is pushed between the knives. This leaded condition destroys the "balanced" movement of the slug between the knives and sets up considerable resistance to the movement of the ejector blade.

(To Be Concluded Next Month)

IMPROVES OPACITY

A development of economic importance is that paper manufacturers are using titanium dioxide pigment as a whitener for paper. The use of titanium yields paper with a whiter and better appearance, more opacity at lighter weight, according to Dr. H. H. Morris, Manager of Technical Service, of the Krebs Pigment & Color Corp., a subsidiary of E. I. du Pont de Nemours & Company. The use of the pigment makes possible a sharp cut in mailing costs.

"Onion-skin paper has always been a poor stock for printing," Dr. Morris said. "The thinness of the paper allowed the print to show through so much that printing was practical on only one side. Even the printing on the one side made a poor appearance, because the transparency of the paper reduced legibility. With titanium dioxide, onion-skin can be made as white as much heavier paper and the printing on both sides is quite legible.

"Paper used for printing on high-speed web presses can be improved by the use of titanium pigment. In papers of this type tensile strength is important. Since titanium oxide is concentrated, the loading can be reduced substantially to make the paper stronger.

"To improve the printing characteristics of paper, it is frequently coated on the surface in a manner similar to the application of paint. Titanium dioxide exhibits its whitening and opacifying properties in paper coatings, permitting the use of thinner coatings without sacrifice of whiteness or printability.

"A bond paper of approximately 13 lbs. per ream weight pigmented with titanium dioxide has been made with the same opacity and greater whiteness than a similar paper weighing 24 lbs. per ream. In this instance the weight of the paper was cut almost in half and yet a more opaque, whiter and better-looking paper was obtained. Or, if paper stock of the same weight is used, the opacity can be greatly increased. This improves the appearance of magazine illustrations and advertisements, where the colored printing or heavy black effects showing through from the preceding page often mar the appearance of an illustration.

"Although the metal titanium, the oxide of which is the pigment, is little known to the general public, it is of fairly common occurrence," Dr. Morris said. "Approximately one-half of one per cent of the earth's crust is titanium. It occurs as ilmenite and rutile, ores which contain iron oxide and titanium dioxide."

The original wood type from which this illustration was made, is owned by Horace Carr, noted Cleveland printer and typographer. The type reproduction was used by the Cleveland publicity committee in the *SYK Review* promotional insert for the XVIII International Convention to be held in Cleveland, August 8-11. The illustration and the accompanying article appeared in the March *Cleveland Craftsman*, for which publication it was written by Mr. Carr. The original wood type is about 120-pt. size. Read Mr. Carr's interesting comments about the technique employed by Darius Wells in making wood type.

IT'S AN OLD CLEVELAND CUSTOM

Venerable Type

By HORACE CARR*

Technique used in making wood type in 1827 described interestingly.

ABOUT 1906, after a fire in the old *Cleveland Leader* plant on lower Superior Ave., it was decided to abandon job printing, and that department, which had not been reached by the fire, was dismantled and sold out piecemeal. I bought some woodcuts and wood type, most of which latter I sold again. Among it were about fifty characters of very old wood type, so caked up with ink and dust that the letters could scarcely be distinguished. Nobody wanted it, and it was put away in a box and forgotten. Recently I came across it, and my attention was attracted by the fact that the open corners of the letters like *A*, *V* and *W*, instead of being cut out by a revolving router, as has been done for nearly a hundred years, were *sawed* under by a horizontal cut, and split down to meet the saw cut. The ordinary solvents had little effect on the ancient dirt and ink with which the letters were encrusted, but a few minutes in hot water, followed by a solution of caustic soda cautiously applied, and a thorough washing after the soda bath, softened the old ink sufficiently to enable me to "engrave" it out of the filled-up lines, leaving the block in its original relief. On the bottom of some of the letters I found the name, "WELLS N. Y." stamped by a steel punch.

Darius Wells was a printer of New York in the early part of the last century, who had a knack for cutting the large letters that were required for special occasions, on wooden boards. There was no supply of wood type, but words or letters were made as needed. In 1827 he abandoned printing, and started the new business of making wood type. At first the work was all done by hand, with chisels and gouges; and to abridge the tedious labor of cutting away the counters and shoulders Wells made use of a simple tool which he called the "router," a flat-faced half-round steel bit made to rotate at high speed by steam power. Under this machine, which resembled an ordinary drill-press, the wood block was moved by hand to cut away the superfluous wood. In 1834 the pantograph was adapted to the router, moving the rotating tool over the stationary block of wood by tracing from an enlarged pattern, the method of the present day.

Now this font of wood letters from the old *Leader* office belongs to the earliest period of Wells' work, and is therefore about one hundred years old, and not improbably the oldest wood type in America. And if one may judge from the nature of the colored ink dried in the letters, it had not been used for seventy-five years, and perhaps a much longer time, until it appeared April

(*Continued on Next Page*)

*Printer and Typographer, Cleveland, Ohio. Printed by permission of *Cleveland Craftsman*.

BOARD OF GOVERNORS OF INTERNATIONAL ASSOCIATION OF PRINTING HOUSE CRAFTSMEN HOLD MID-YEAR MEETING IN CLEVELAND, FEBRUARY 27-28

Seated left to right: John M. Callahan, First Vice President; Clark R. Long, President; DeWitt A. Patterson, Second Vice President.

Standing left to right: Frank McCaffrey, Third Vice President; John B. Curry, Past President; L. M. Augustine, Secretary; Fred W. Hoch, Educational Commissioner; Hon. Augustus E. Giegengack, Chairman Research Commission, and Mark A. Mullee, Treasurer.

Besides transacting International Association business, the Board heard the general chairman's report concerning plans for the XVIII Annual Convention which will be held in Cleveland, August 8, 9, 10 and 11.

Magazine Index

By JAMES A. WEST*

Numbered machines, racks, magazines and card system save lost motion.

IN ANY printing plant where a considerable number of Linotype magazines are used, particularly on commercial work, where many faces and sizes of type are used and frequent changes of magazines are necessary, the problem of keeping them easily accessible and saving the time of operators when making magazine changes is an important one.

We have in operation a system that is simple, efficient and practically fool-proof, and if several widely-traveled equipment salesmen may be believed, no other shop has a system like it.

We have racks containing slides for 115 magazines, each slide carrying a number at the top. Each of the 115 magazines carries a corresponding number so that each magazine has a definite place in a slide. Each of the magazines, of course, carries a label identifying the font.

Each of our 18 Linotype machines has a number and is supplied with a quantity of small cards numbered to correspond with the number of the machine.

In a conspicuous place for the operators is posted a directory of the 115 magazines allocated to the numbered slides in the rack, giving the name of the font contained in each numbered magazine and the corresponding slide number in the rack.

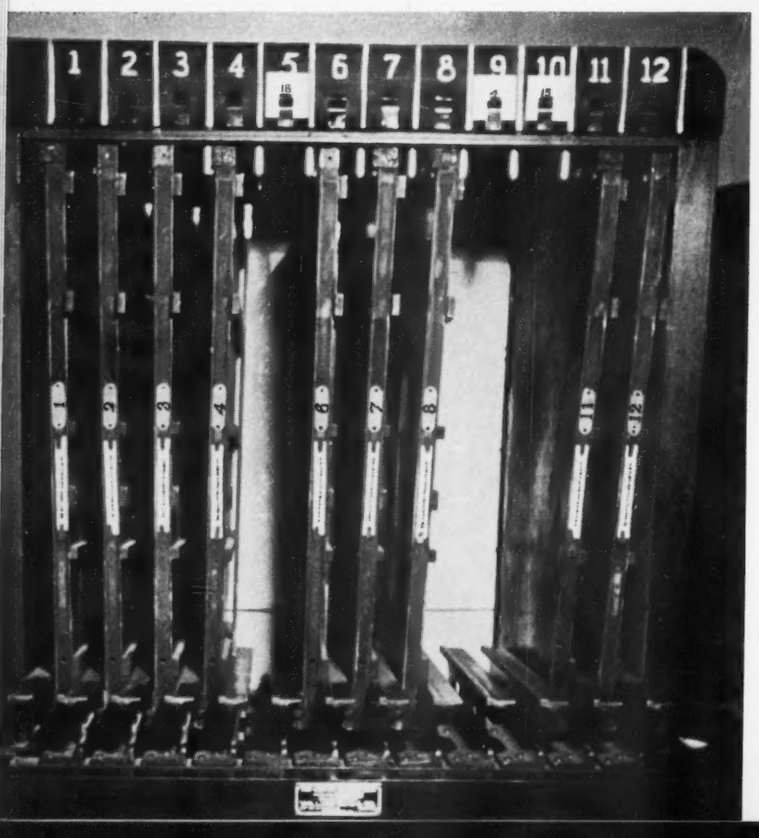
When an operator desires to make a change of magazine, he gets from the directory the number of the magazine containing the font he desires. When he takes it out of the rack he places one of the cards carrying the number of the machine on which the magazine is to be used in a clip above the slide from which the magazine is taken.

In case another operator needs the same magazine, and does not find it in its proper place, he knows by looking at the numbered card, on which machine the magazine is in use, or if not in use, where it is to be found, so that no time is wasted hunting for magazines.

Our plant handles a tremendous amount of Linotype composition on commercial work. All of this composition is based on practically instantaneous service, using a wide range of type faces and sizes and involving hundreds of magazine changes each day.

We have had this system in operation for more than two years and it is a great time-saver.

*Composing Room Superintendent, Judd & Detweiler, Washington, D. C.



View of portion of one section of the magazine rack in the plant of Judd & Detweiler, Washington, D. C. This rack is one of ten sections, five of which contain ten magazines each and five containing eleven each. Each of the magazines bears a number corresponding to the slide number in the rack. To illustrate, the magazine numbered 18 is in use on machine No. 4. If an operator of another machine wants to know the whereabouts of that magazine, the white card slipped under the clip tells him the magazine can be located on No. 4 machine. When the magazine is returned to its place in the rack, the white card is removed. Composing Room Superintendent James A. West, in the accompanying article, describes an index list of faces which aid the operator in locating the storage place of any magazine.

Photo by H. B. Watkins, Plant Photographer, Judd & Detweiler, Washington, D. C.

Venerable Type

(*Continued from Page 21*)

A candid camera shot of Horace Carr in his library

24, 1928, in an auction bill which I printed for the Publication Committee of the Rowfant Club.

Fortunately, there is at least one of each letter, but no figures (they were often omitted from "fancy type"), and no points. Some characters were damaged; two *E's*, one *A*, one *D* and the only *H*, have been repaired, and several electrotypes have been made. Incidentally, the letters are cut on end-grain boxwood, instead of the apple or pear wood used in most early wood type. It was made type-high in a lathe.

GAGE SPEAKS

Harry L. Gage, vice president in charge of sales with the Mergenthaler Linotype Company, gave two talks in Philadelphia March 18. At a mid-day meeting of the local Typothetae group and members of allied organizations Mr. Gage discussed "Types and Their Proper Uses," and at night spoke to members of the Philadelphia Typesetting Association on "What Are the Sins of Omission and Commission of the Trade Typesetter?"

Herbert Matter

BUILT RIGHT

. . . to work right

Men who take pride in their work put something more into it than the blue-prints call for. That *something* is Character.

TRADE LINOTYPE MARK

SET IN LINOTYPE MEMPHIS FAMILY

MERGENTHALER LINOTYPE COMPANY

BROOKLYN, NEW YORK

Metallic Containers

By ADAM HENRY REISER

Application of newer metals to photography and press plates discussed.

FOR years photographers have been suffering the use of enamelled trays. These have chipped, caused damage to the contents of the tray through contact with the exposed metal, besides causing painful injury at times to the operator when pieces of the enamel became lodged under his nail. Blue enamel has been favored as being the more lasting of the two types of enamel used for coating the trays. But when the tray comes in large sizes in the neighborhood of 45 in. square, continued handling causes stresses that chip the enamel whether it is blue or white.

Silver Bath Holders

Silver baths for the dark room require corrosion-proof containers, strong, light in weight and which in addition will not affect the silver nitrate solution in any manner. Until recently, pyroxilin has been the more favored of the materials used to hold the silver bath solution. It may be of interest to the many photographers in the graphic arts to hear that the alloy, Inconel, is now being used for the silver nitrate solution.

Containers, one in the shape of the conventional upright tank and the other of the horizontal rocking-type, have been constructed for two large litho houses using the wet plate process. These containers have stood up over a period of time, yielding satisfactory results as silver bath holders.

Of course, the interesting part lies in the cost reduction possible. Studies of comparative costs of the Inconel trays swing the pendulum of buying towards the newer metal, Inconel. The cost of a large Inconel tray is said to be almost one-half that of its nearest competitor.

Dark Room Equipment

Nickel and Monel Metal dark room equipment will give reliable results under ordinary usage. For commercial purposes, however, where acid fixing solutions stand for any length of time, the Inconel metal is advocated. The latter metal may be used in every instance in photographic work if the solution is dumped immediately after its use and the container washed thoroughly.

Thus have the photographic engineers and the metal manufacturers contributed to the advance of photography. The matter came to the writer's attention through a search for a silver bath container for glass sizes up to 45 in. square. That is the maximum size negative made in the place of his present employment. Of course, with the decreased use of the wet plate process, the demand for silver baths has become greatly diminished. But despite this, metal trays should prove a boon to the gravure worker, the photoengraver or the lithographer because of their sturdiness, freedom from chipping and most important of all to the graphic arts, cleanliness.

But the metals mentioned above are not to be limited to the field of photography alone. A considerable amount of thought is said to be given to the idea of using Monel Metal to replace the present zinc and aluminum in use in the lithographic industry for press-plates.

Properties peculiar to each alone are said to be held by the three metals. Inconel, for illustration, is said to have the property of throwing off water very readily. Making use of this factor, by plating a layer on another metal in only those parts representing the work areas, may be of benefit to lithography. Inconel also corrodes easily under the influence of strong nitric solutions. Perhaps some use can be made of that factor for the image production upon the metal while a water acceptant is introduced in surrounding parts.

Fantastic? Yes. But hasn't much of our progress grown out of fantasies?

Combination Press

By STAFF WRITER

Four-page Duplex section associated with 22-page Hoe section.

THE new Duplex Unitubular installation of the Compton Printing Company, Los Angeles, specially designed by Carl M. Bigsby, owner, to combine the advantages of tubular color printing and the page capacities of semi-cylindrical four plate wide newspaper presses, was given its first trial run here in February when an edition of the *Southwest Wave*, local community semi-weekly, was produced on its regular edition.

The product, a 26-page standard newspaper, was produced by printing 22 pages on the Sextuple Hoe press which was erected in parallel with the 12-page Unitubular, from which a 4-page section was associated into the Hoe folder. Satisfactory control of the webs was had at 30,000 papers per hour.

Subsequently, the combination of the two presses was used on a 550,000 run of circulars for Safeway local stores, in which black and two colors were printed on the outside of two 4-page circulars, one of the circulars coming off the Duplex folder, while the other was angle barred over to the main side Hoe folder.

It is the intention of Mr. Bigsby to use the two 4-color tubular and one black tubular unit to produce color covers for circulars (up to 4 colors on outside pages) and to associate these around the inside black pages which are to be printed on the standard plate press. In this way the number of rolls of paper on large size products will be less than if the entire product were run on a tubular press, and, at the same time the advantages of single plate routing and register, together with the register perfection possible with the 4 color Duplex unit will be available for the color portions of the product.

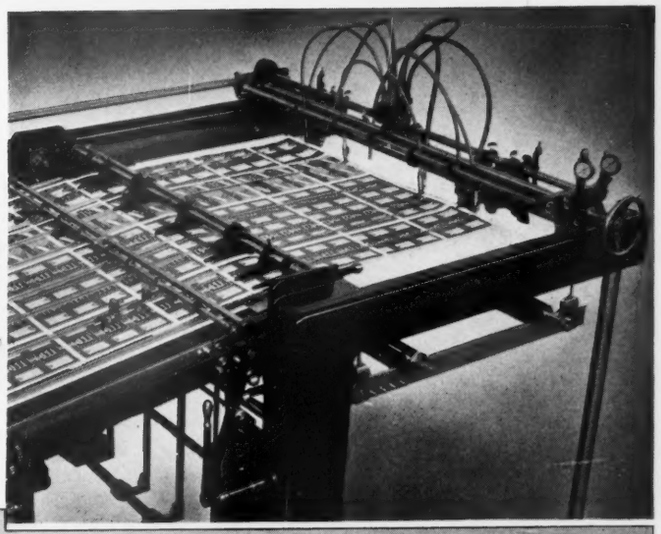
Similarily, 4 color advertising may be inserted at any point in a 24-page newspaper being printed on the Hoe press. Provision is also made for leading webs from the Hoe press into the Unitubular, giving it an increased black capacity of 12 pages, printed from two rolls. Webs from the Duplex may be led into the Hoe, either as inset webs, or as an additional section, making possible three uneven sections in one product.

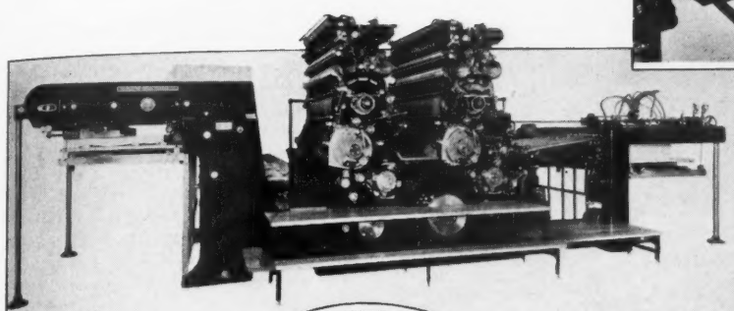
Mr. Bigsby believes this installation, combining the products of tubular plate and standard plate presses to be the only one of its kind in the world, but sees in it great possibilities for the Metropolitan newspaper field. where the addition of one or two tubular color units could not only increase the press capacity of standard presses as much as 100%, but at the same time give the advantages of quick, accurate, color printing.

NEW HOWARD BOND DISTRIBUTOR

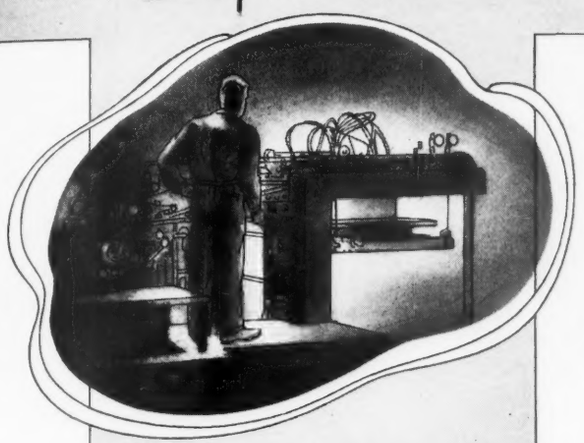
The Howard Paper Company announces the appointment of the Newhouse Paper Company, Des Moines, Iowa, as agents so as to make the company's products available within a short distance.

The New AND REVOLUTIONARY





HARRIS H·T·B Stream Feeder



• The use of the new and revolutionary Harris H. T. B. Stream Feeder makes higher press speed both possible and practical. Stream Feeding causes the sheet to be transmitted to the front guide at a fraction of the press speed.

Sheets are underlapped to make a perfect hold-down and guiding means for presenting wavy and curled stock to the front guides. Slow forwarding speed eliminates mutilation of the front edge of light and heavy stock.

Stream feeding also eliminates use of accurately timed mechanical slow-downs and many other parts that were formerly absolutely necessary.

Press shown is the L. S. K. 42" x 58"—2 colors

Some Features of HARRIS COLOR GROUP

1. Revolutionary Harris H. T. B. Stream Feeder
2. Precision Tapered Pre-loaded Roller Bearings
3. Choice of Feed Roll or Rotary 3 Point Registering mechanism.
4. Micrometer Dials for setting printing pressures.
5. Quick Change Plate Clamps
6. Double size Transfer Cylinder
7. Inker load eliminated from printing couplet
8. Harris Cleanable Ink Fountain
9. Adjustable Ink Vibration

HARRIS *Offset* PRESSES

HARRIS • SEYBOLD • POTTER COMPANY

General Offices: 4510 East 71st St., Cleveland, Ohio • *Harris Sales Offices:* New York, 330 West 42nd St. • Chicago, 343 South Dearborn St. • Dayton, 813 Washington St. • San Francisco, 420 Market St. • *Factories:* Cleveland, Dayton

Ad Makeup Table

By NORMAN G. STELTZ*

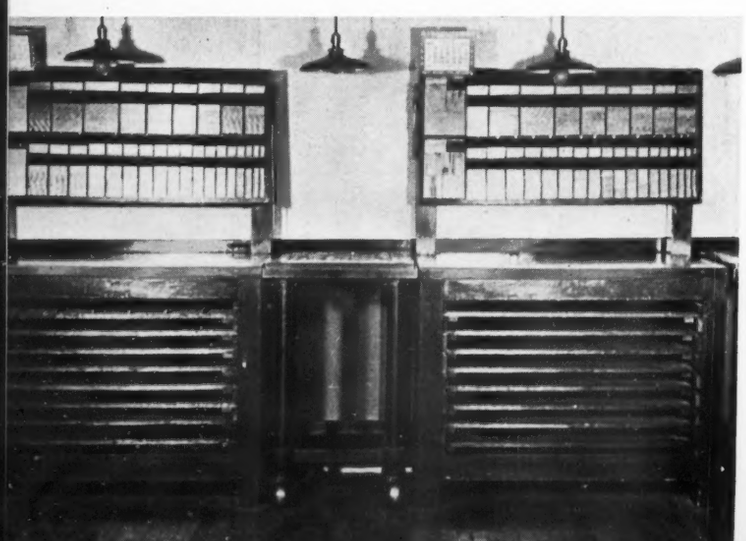
Features incorporated in table and slug case eliminate lost motion and make possible assembling entire page ad with all material conveniently at hand.

AFTER reading this article I believe there will be some newspaper executives who will not fully agree with me. It describes a little thought of my own. If you do not like the printing office furniture illustrated, well then, just forget it, but I'll assure you there is a lot of real printer sense in it. It may surprise you to know that many articles are designed for printers by men who would not know how to hold a composing stick or if you were to tell them you had a "shooting stick" in your pocket they would throw up their hands.

Norman G. Steltz's studies have resulted in several production innovations.

*Superintendent, The *Times-Herald*, Olean, New York.

Newspaper ad makeup tables designed by Norman G. Steltz, Superintendent of the Olean (N. Y.) *Times-Herald*. Notice that the tables are built to the exact height of the form truck. The tables are spaced on the floor a sufficient distance apart so a truck can be rolled between them. This arrangement makes it possible for the ad man to have material for a page ad on his table with form truck and chase at his right. The sloping double-depth lead and slug cases are arranged so the narrow measure material is at the right of each case. The tops of each compartment are sloping like a money drawer which makes it easy for the ad man to take out material, whether it be from the upper layer or the lower one.



Wanted—1250 Craftsmen

The International Association of Printing House Craftsmen wants 1250 members of the Graphic Arts Industry and their wives who are seeking an educational vacation interspersed with amusement features to attend the Eighteenth Annual Convention in Cleveland.

Cleveland, the Convention City, joins the local club in extending its invitation to members of the Graphic Arts trades. The Great Lakes Exposition with its 45 acres of industrial and art exhibits offers additional attractions for the convention goer and vacationist. Here you will find many outstanding exhibits along with a Midway of Amusement. Exposition officials will inaugurate a special day for the Craftsmen which will mean special features along with an evening's excursion on the palatial lake steamer *Goodtime*.

The entertainment committee, headed by Art Walker, is rounding out an ideal program for entertaining 1250 members and their wives to supplement the educational program.

Plan your vacation dates now for August 8, 9, 10 and 11. Bring your golf clubs. Spend a week in Cleveland.

We all know how we worked on the old case frame; then the cabinet was built with brackets on it to hold the cases; then came the cabinet with sloping tops to work on and finally the flat top ad man's cabinet.

The flat top cabinet was a big improvement, but never has there been enough room for the ad man. When making-up an ad he did not have sufficient room for a large galley to hold the completed ad, in addition to the other galleys holding the "guts" set on the linotype, Ludlow slugs, copy, cuts, etc. One of the equipment items still in use today is the left-handed (or backward) lead and slug case which holds only a small amount of material. Of course, these cases have been improved by making them double depth—but did you ever try to get a lead or slug out of a full second row? It is a hard job even if you do have two make-up rules to help dig them out.

The illustration shows two of six specially designed ad make-up tables. The working top is 28 in. deep by 48 in. long and will hold two eight-column newspaper pages (if you desire). However, it is not necessary to put the chases on the tables. These tables are built to the exact height of the form trucks and are located so that a form truck can be placed between each ad make-up table. This arrangement makes it handy for the ad man to have all the material for a whole page ad on his table with the form truck (with chase) at his right side, just as though it were a part of the table he is working on, instead of having the form truck standing out in the aisle.

You will notice the sloping double depth lead and slug case which holds 380 pounds of material. Leads and slugs cut from 4 to 25 ems, also 21½, 30 and 34 em sizes (two boxes for the 10 and 11-em sizes) as well as about 40 pounds of 22½ em 12 point Ludlow slugs for

(*Continued on Page 54*)

★ TWO SMART NEW TYPES ★

EMPIRE

NOW AVAILABLE

● A tall "thick and thin" capital that will add a different touch to many kinds of advertising and printing. ATF Branches can fill your order now for any or all of its five sizes. Ask your ATF Salesman.

★

ONYX

★ ★

The compressed blackface with a usable, legible, lowercase and clean-printing hairlines and serifs. Six sizes, 30 to 96 point, are scheduled for completion

APRIL FIRST

...and more to come

● You'll want both of these faces . . . want them because they're well-designed, well-cut versions of the compressed letters now in demand . . . because they're foundry cast in clean-printing, long wearing metal . . . because they'll give you both typographic and printing quality at nominal cost. ● It will pay you to watch for the new ATF faces—to buy ATF type. Then you will get both outstanding design and "the best type made" at a cost averaging only 70 cents per pound.

ATF

AMERICAN TYPE FOUNDERS

Branches and Selling Agents in 25 Cities

200 ELMORA AVENUE • ELIZABETH, N. J.

QPA • HIGH QPA • HIGH QPA • HIGH QPA • HIGH QPA*

. . . LOW ON SHUT-DOWN TIME

• That's what makes ATF's new 17x22 Kelly a wise investment. Fr
ccess to both form and cylinder reduces makeready time to a minim
Change to a new pile in 20 seconds. Adjust side register without sto
ping. Automatic lubrication shortens "oiling up" time. Automatic lowe
delivery, handy controls and many other features reduce costly shut-do
ime and increase your press profits. Ask your ATF Salesman for deta

*QPA means Quality Production Average . . . the average hourly produ
ion of well-printed sheets you can expect *and get* from a press. QPA is t
rue measure of press profit possibilities. ATF's 17x22 has a High QP

FREE Illustrated literature for plant owners and pressmen . . . No cost or obligation. Write your nearest ATF Branch.

• The New ATF 17x22 Kelly is powered b
KIMBLE MOTOR . . . the only motor d
signed exclusively for use in the graphic

AMERICAN TYPE FOUNDERS

200 ELMORA AVENUE • ELIZABETH, NEW JERSEY

A. N. P. A. Mechanical Committe

Upper Row (Left to right):

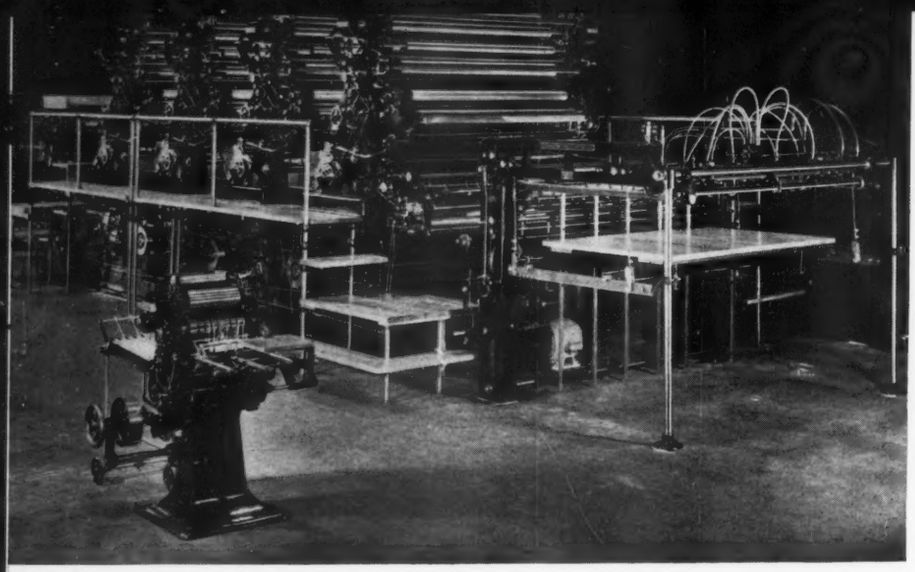
E. G. Ahearn, Gen. Mech. Supt., Hearst Newspapers New York; Tennant Bryan, Asst. Bus. Mgr., Richmond (Va.) *News-Leader;* John A. Burke, Prod. Mgr., Gannett Newspapers, Rochester, N. Y.; A. H. Burns, Mech. Supt., New York *Herald-Tribune.*

Second Row (left to right):

W. E. Wines, Manager, A.N.P.A. Mechanical Dept., New York; S. H. Kauffmann, Chairman of the Committee and Asst. Bus. Mgr., Washington (D. C.) *Star.*

Third Row (Left to right): Wm. L. Fanning, Vice Chairman of the Committee and Bus. Mgr. and Treas., New Rochelle (N. Y.) *Standard-Star;* Howard J. Lamade, Bus. Mgr., Williamsport (Pa.) *Grit;* John E. Martin, Prod. Mgr., New York *Evening Sun.*

Bottom Row (Left to right): Walter Ogden, Pressroom Supt., Cleveland *Press;* F. C. Palmer, Stereo. Supt., Jersey City (N. J.) *Journal;* John W. Park, Prod. Mgr., Chicago *Tribune;* E. R. Whitrod, Asst. Bus. Mgr., Montreal (Can.) *Star.*



Equipment

Extremes in Press Sizes

A romance in press development is seen in the contrast between the little Harris E1, envelope press (the original Harris automatic press) and the giant 46½ in. by 68½ in. 4-color offset press. When earlier models of the E1 were first placed on the market forty-odd years ago, it was claimed that the press represented the culmination of press development. Only a few weeks ago an earlier model, the sixth E1 press manufactured, was taken in trade after forty and one-half years of continuous operation.

The giant 4-color offset shown is one of five new Harris press sizes announced during 1936, which are built in one, two, three and four colors.

Note the size of the smaller machine which is shown beside a plate cylinder of the large offset. The envelope press handles a maximum stock size 11 in. by 12 in. as against 46½ in. by 68½ in. for the 4-color offset press.

A weight of 1400 lbs. contrasts with a weight of 125,000 lbs. Floor space is 3 ft. 3½ in. by 7 ft. 2 in. as compared with 14 ft. 4 in. by 41 ft. 9 in. The plate form is 10 in. by 11 in. for the smaller machine and 49½ in. by 68½ in. for the larger machine. A feature of the larger machine is the Harris H.T.B. Stream Feeder which it is claimed makes high press speeds on large equipment both possible and practical.

Flexible Web Offset Press (Shown Below)

It has been announced by Webendorfer-Wills Co., Inc., that a web offset printing press has just been completed for a west coast customer. The press is of the unit type and will print three colors on one side of the web, or one color on one side and two on the other. It is announced by the manufacturer that the press will deliver flat sheets at speeds of 10,000 to 12,000 per hour, and at still greater speeds if a rewinding attachment is used. The press will handle sheets up to 25 in. wide by a cut-off of 26 in. Other sizes can be furnished.

The press is designed for the printing of lables, checks, letterheads, salesbooks, and similar work. Part of the press equipment consists of a double paper roll stand for running and printing two webs at one time; a special imprinting, perforating and numbering unit; a re-winding attachment; cutter head and flat sheet pile delivery.

Special devices control the position of the paper both sideways and in the running direction of the web to insure proper registration.

P-Double-E File No. 2D24.

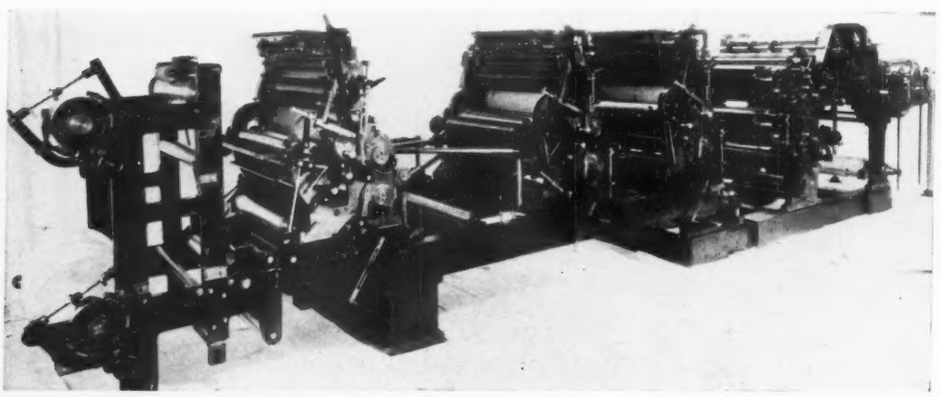
New Stand For TrimOsaw

The Hammond Machinery Builders, Inc., have announced a new steel cabinet, specially designed to accommodate the Hammond Bench TrimOsaw.

Manufacturers state this new stand is of substantial pressed steel construction and is provided with large metal chute and commodious storage compartment. It is painted to match the color of the paint used on the TrimOsaw.

P-Double-E File No. 1Z.

(*Continued on Page 40*)



View of new Webendorfer-Wills Web Offset Printing Press. The press is of the unit type. Special registration devices are used both sidewise and in the running direction of the web. Manufacturer states press will deliver flat sheets at speeds of 10,000 to 12,000 per hour. Still faster speeds may be attained by the use of a rewinding attachment.

Some of the More Important and Exclusive Features of the KLUGE AUTOMATIC PRESS

Six rollers, one rider and two vibrators contribute to the Kluge's perfect distribution.

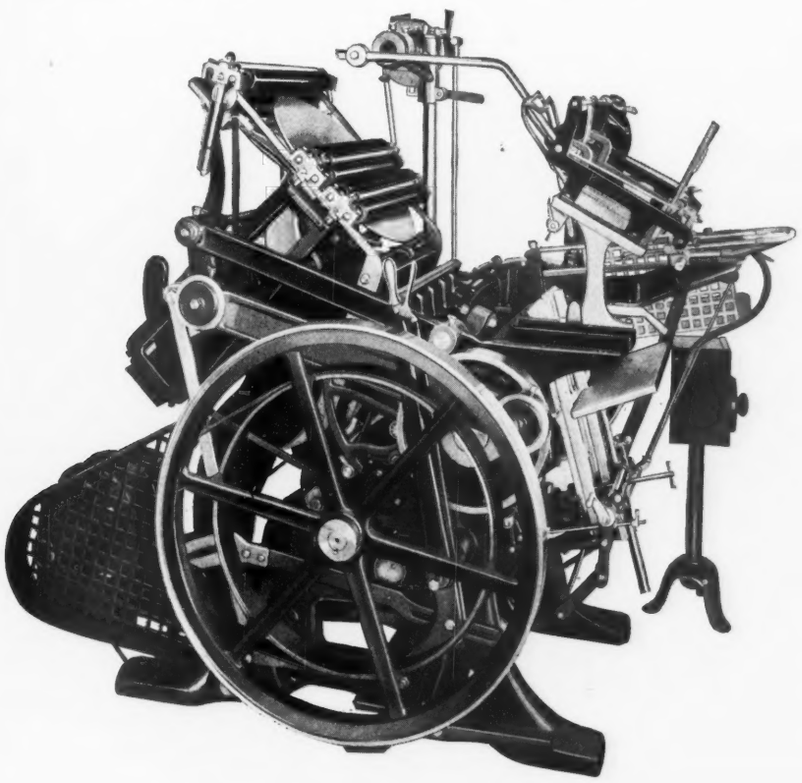
Ten special new features in the Kluge Roller Assembly, including Micarta Trucks and Ball Bearings.

All major bearings wick-packed for thorough lubrication. All oil holes and cups in plain sight.

Legs, side arms and lower frame stronger and heavier. Upper reciprocating parts made of aluminum alloys for lightness and speed.

Patented rigid Throw-off and Non-Oscillating Back Shaft insures perfect and unyielding impression.

Eleven special new features in the Fountain and Disc Assembly.



The Kluge Selec-Tone Distribution guarantees ink where and how you want it.

Patented Depressible Grippers lay flat on platen until delivery fingers take control of sheet.

One set of suction fingers will handle all weights of stock up to 140-lb.

The famous Kluge Feeder is an integral part of the press.

Handy Stock Shelf for convenience in loading magazine.

Automatic Jogger, holding twelve inches of stock or one box of envelopes. Cannot overflow.

Belt wheel inside fly wheel, for better balance and greater safety.

Heavier, wider spread feet insure greater firmness and rigidity with the higher speed obtainable on the Kluge.

BRANDTJEN & KLUGE, INC., *Manufacturers*

SAINT PAUL » « MINNESOTA

BRANCHES WITH OPERATING EXHIBITS:

NEW YORK . . . . 77 White Street	DETROIT . . . . . 1051 First Street	ATLANTA . . 150 Forsyth Street, S. W.
PHILADELPHIA . . 253 N. 12th Street	CHICAGO . . 106 W. Harrison Street	SAN FRANCISCO . 451 Sansome Street
BOSTON . . . . . 27 Doane Street	ST. LOUIS . . . . . 2226 Olive Street	LOS ANGELES . . 1232 S. Maple Ave.
	DALLAS . . . . . 217 Browder Street	

CANADA: SEARS LTD., Toronto, Montreal, Winnipeg, Vancouver

Intelligent Makeready

By STAFF WRITER

Pressman cannot make most of modern press because much of his time is spent in trying to overcome faulty form elements.

IF YOU had not entered a pressroom since the beginning of the century and were to scan one today, you would be impressed with the great improvement in presses, which are better built, print better and can be operated at higher speeds than the presses of yesterday. You would also be impressed with the self-feed accessory of the modern press. The hand-fed press is rapidly disappearing; indeed has almost done so already. The automatic feeders can be operated at higher speeds than the average human feeder can watch and maintain. Even the platen presses are nearly all self-feeding. One or two hand-fed platen presses are seen now and then running on jobs requiring very small sheets, gummed paper, very thick cardboard, tissue, etc. The signs once so common, reading "Gordon Feeder Wanted," are gone forever.

Strange to say, the improved presses of today, with some few exceptions, are not operated at capacity. With all the improvements built into them these presses may be seen standing, waiting until makeready is finished. After the run is started these fast presses will be halted frequently because makeready was not complete.

If you want to appreciate what fairly complete makeready is, step into the assembly plant of an automobile manufacturing company. In an hour, and less in some cases, a car may be assembled because all the preceding operations were correctly planned and accurately carried out so that nothing but assembling remains to be done in the assembly plant. If the methods of the average printer had been used, a day or even longer might be required to assemble a car.

The pressman cannot make the most of the possibilities of the modern press because much of his time is spent in trying to overcome the results of faulty management and preparation. The printer is not entirely to blame since in many cases he must accept what is handed to him and do the best he can with it. A long period of educational propaganda has failed to produce the cooperation from customer, photographer and plate-maker which is necessary if the presses are to operate with the minimum of lost time.

Many forget that when printed a good illustration will never be quite as good as the photograph, hence the importance of getting what is wanted in contrast and detail in the negative. Perfect presswork can only reproduce what is in the printing plate and when halftones that are flat and without contrast of tone are to be printed alone or in the same form with snappy halftones much time is wasted and the result is not satisfactory.

Plates on wood bases, electrotypes and stereotypes cause much loss of time because a high standard of accuracy is not maintained by the platemakers. Pressroom foremen ask their superiors to insist on accuracy but it is rarely obtained. One foreman visited the platemaker to ascertain the trouble and found gauges inaccurately set.

So far as the composing room, the photoengraver, electrotyper and stereotyper are concerned, we may as well face the fact that the printer is to blame if the pressman is delayed by their faulty products. He should demand accuracy and not rest until it is obtained. When that happy day arrives, his pressroom will cease to be a correction department and will become a production department.

Of course makeready begins outside the pressroom: in paper mill, ink factory and the plants where the units finally assembled in the form are produced and the work there done is as important as the pressman's.

Experienced pressmen realize the importance of starting makeready with a level and type-high form and this cannot be stressed too strongly. It is the foundation of a good job without waste of time. Underlaying is resorted to only when necessary. With accurate plates it is the exception today. Detail underlays have been found to be useless. Only leveling is attempted to secure a form with its surface a type high plane.

After position okay is received the point system of makeready is a favorite. In packing the cylinder two manila topsheets are used. The topsheet is not pasted like the drawsheet beneath it. An impression is pulled on the temporary topsheet at speed with light impression and moderate supply of ink so that spots requiring overlay may be accurately determined. This is not possible with excess ink or impression. The temporary topsheet is stabbed with punch or awl in the margins and hung next below the permanent drawsheet, thus insuring a base in register on which to hang overlays. One marked-out overlay is often sufficient, together with cut overlays when used. On short runs on coated paper (up to twenty thousand impressions) the cut overlay is seldom used.

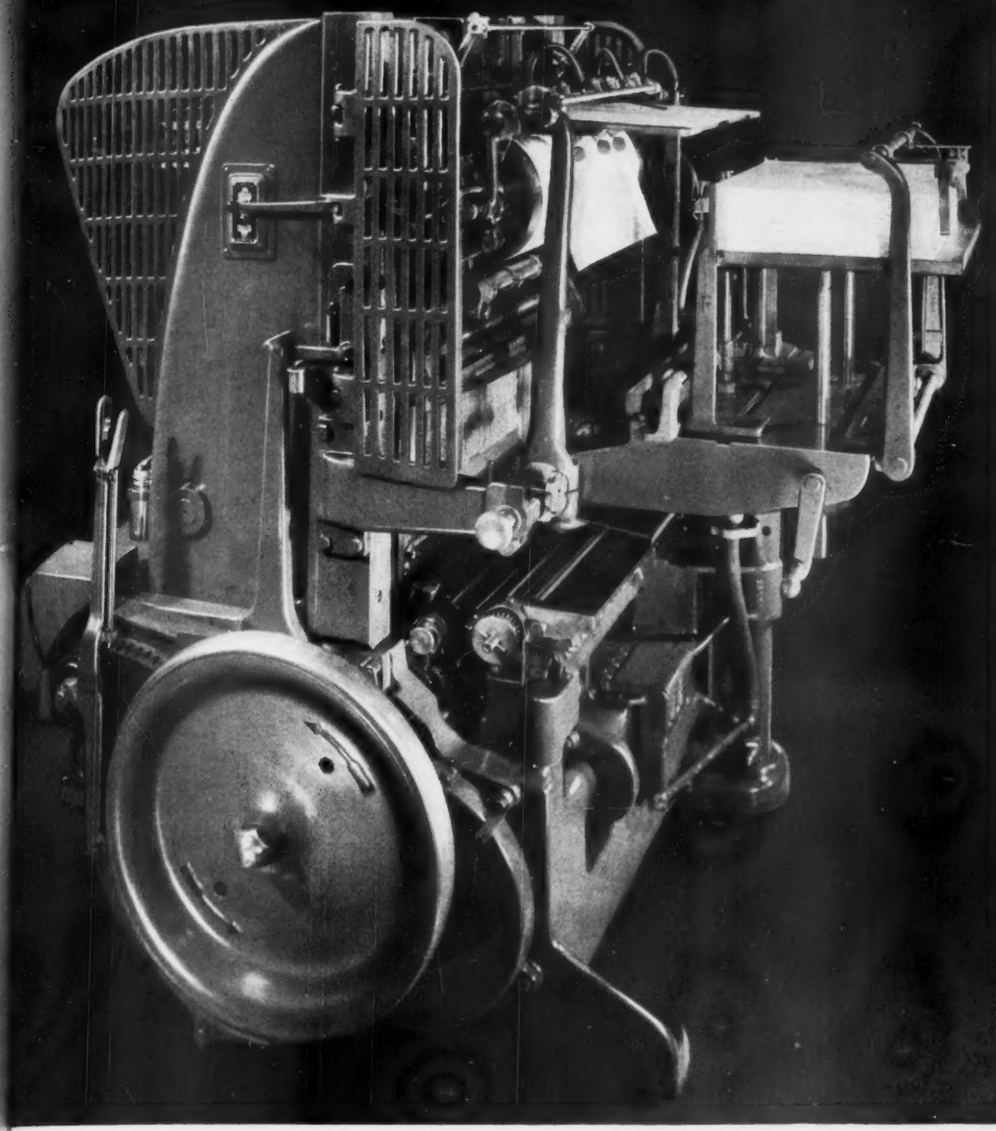
The time-wasting custom of pulling an impression on the tympan of the platen press and then washing the ink off or removing it by printing on waste sheets is not necessary if the tympan and a sheet fed to the gauges are stabbed. On platen presses makeready is quicker if the form is level and type high and (of equal importance) the platen parallel to the form.

Probably the two principal causes of trouble in the pressroom aside from those noticed are lack of atmospheric control and suiting ink to paper. Air-conditioning is coming into use so rapidly that it is likely to reach many print shops soon. Meanwhile, the pressman must combat static with sheet heaters and various neutralizers. He must do the best he can with curly paper, which decreases production and makes register impossible.

Those pressrooms where but a few different papers are printed upon have an advantage over those that take in many different papers. With few brands, these may be ordered in quantity in advance and seasoned and after a few runs the suitable ink for the paper is found. In the large commercial print shop where printing is done on all the papers stocked by the dealer, it is not always easy to suit the ink to the paper. In case of doubt, it is always better to give the details of the job to the inkmaker and ask his experienced help.

According to surface and absorbency, various papers require different inks. The character of the form, the type of press, its operating speed and the prevailing atmospheric conditions all have influence upon the ink. This does not take into consideration subsequent opera-

(*Continued on Page 58*)



COMPACT

MIEHLE VERTICAL

It is the consistent printing quality and steady running ability of the Miehle Vertical that makes a high score in actual average production. Regardless of the conditions or speed under which you operate, you can count on maximum output at the end of the day.

This compact unit with automatic feeder and delivery—requiring only 4 by 5 feet of space—produces 2500 to 4500 impressions per hour, handling sheets up to 13½x20 inches. Easy make-ready and rapid wash-up mean minimum "time out" between runs. The Miehle Vertical is the most economical for a wide variety of work on either long or short runs.

Motored by KIMBLE

Visit our Demonstration Rooms at the General Offices, 14th St. and S. Damen Ave., Chicago

MIEHLE PRINTING PRESS & MFG. CO.

CHICAGO NEW YORK

SALES OFFICES IN PRINCIPAL CITIES

PRINT IT ON A MIEHLE

Here is Photographer Olin Piercy standing beside the enlarging camera in the plant of the Bloomington (Ill.) *Pantagraph*. Figures on the vertical scale show the proportion of the enlargement to the original picture on the film. The machine will handle any film up to 5 in. by 7 in. The easel on the table may be adjusted to print varied width borders as well as to hold the paper flat.

Darkroom

By RUSSELL B. MILLER*

Added to photographic and engraving facilities at Bloomington Pantagraph.

The Daily *Pantagraph*, Central Illinois' picture newspaper, effected another improvement in the handling of its illustrative art with the opening recently of a modern photographic darkroom. Three rooms adjacent to the engraving department on the third floor were constructed expressly for a photo layout at the time of construction of the new building. Several months' time was devoted to assembling of equipment while shelves, tables, sinks, tanks and electrical fixtures were being supplied.

*Mechanical Superintendent, the Bloomington (Ill.) *Pantagraph*.

Present equipment, while new in every respect shows more time and effort plus careful planning than actual cash outlay. Briefly, the darkroom furniture includes a wooden sink, lead lined, measuring 3½ ft. by 6 ft. by 12 in. deep; a four-leg table constructed of 2½ in. pipe, giving solid support to the 5 by 7 Eastman auto-focus enlarger. Two work tables on either wall flanking the sink are collapsible, folding flat when not needed.

Four taps, including hot and cold water, supply the sink. One hose line connects with the film developing tank for tempering the developer as well as providing a film washing medium. Two enameled tanks holding a gallon of solution are used for developing and fixing. Each has a capacity of one dozen 4 by 5 cut films which is the standard size used by all staff reporter-photographers. The washing tank was constructed in the *Pantagraph* workshop and will hold three dozen films. The three units, developer, hypo and washing compartment are combined in the one big tank. Provisions have also been made to insert refrigerating coils in the bottom of the tank for hot weather operation. A space under the sink will accommodate a small compressor unit.

A mixing valve to temper the water in cold weather is also incorporated in the plumbing design. This feature was found advisable after several batches of film showed undue grain in 50-55 deg. developer.

Suitable arrangements are provided for drying films in a short time, although a special holder for printing with wet films is used on all rush enlargements.

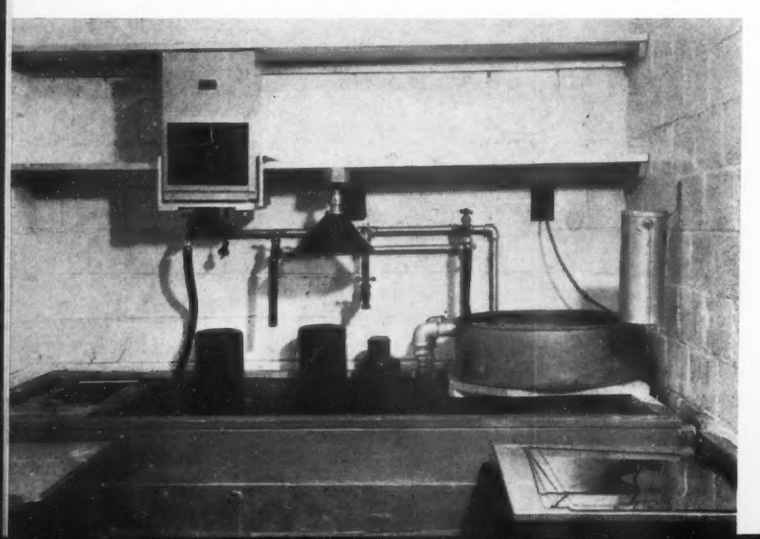
Eastman's standard D-72 developer is used for films and paper, being purchased ready mixed in the one gallon size. A potassium alum hardener is used with prismatic crystal hypo, these chemicals being purchased in bulk for economy.

Eastman's news bromide projection paper is used exclusively for prints, while photographers are supplied with Panchro Press anti-halation film.

A circular water agitated print washer is employed, while prints are dried on chromium plates. An electric platen with a curved surface aids in the drying process, while at the same time, it offsets the print curling tendency.

The plant is systematized for one-man operation, full time. A day book is kept on all films checked in, the number of exposures, subject, the photographer, and enlargements ordered. Printed films are filed, while finished prints go directly to the engraving department after selections have been made via negatives by news editors.

The *Pantagraph* has five complete photographic outfits which are permanently assigned to individual reporters. Their work constitutes the bulk of the dark room business.



At the Bloomington (Ill.) *Pantagraph* a sink extends across one entire side of the new photographic dark room. Every necessity and convenience is afforded for turning out a considerable amount of work. At the left is a timing clock. In the central part of the illustration is a green safety light for developing panchromatic films. Left to right can be seen a film developing tank, chemical bottles and a print washer. The side tables can be dropped down out of the way.

"QUICK! OPEN THAT CASE OF CERTIFIEDS"

THE stereo foreman has run into mat troubles at the height of the rush.

Like many other stereo executives, he likes to have a case or two of Certified Mats on hand "in case of trouble" with the mats he is using.

Some day he will ask himself, "Why wait for trouble? If Certifieds are the cure for difficulties, why not use them right along?"

It is by such incidents and such logic that the use of Certified Mats grows and keeps on growing.

For dependable stereotyping, rely on Certified Mats, made in the U.S.A.

CERTIFIED DRY MAT CORPORATION
338 MADISON AVE. NEW YORK CITY

Certified DRY MATS

Ed C. Funk, President, Iowa Daily Newspaper Mechanical Conference. He is associated with the Waterloo (Ia.) Daily *Courier*.

YOU CAN FIND WHO MAKES IT IN THE P-DOUBLE-E INDEX.

WEBENDORFER OFFSET JOBBERS

Built in Four Sheet Sizes: 12 x 18 — 17 x 22 — 22 x 26 — 22 x 29

'SIMPLIFIED OFFSET' Get your copy of this book today. No cost—No obligation.

American Made by
WEBENDORFER-WILLS CO., INC.
Builders of Printing Machinery for Over Thirty Years
MOUNT VERNON, NEW YORK, U. S. A.

Technical Books

HANDBOOK *for* PRESSMEN

By FRED W. HOCH

New book by authority on all phases of letterpress production for the practical pressman. Contains 248 pages, 26 illustrations and 24 charts. $3.00 per copy, cash with order.

The PRACTICE *of* PRESSWORK

By CRAIG R. SPICHER

We offer copies to our readers at the special price of $4.00 per copy, cash with order. No printer should be without a copy. (9000 copies printed.)

MANUAL *of* STEREOTYPING

By JOSEPH GOGGIN

This 256-page book conveys latest technical information and manipulating procedure. Written by a practical stereotyper. Price $5.00 cash with order.

MERRIAM-WEBSTER
NEW INTERNATIONAL DICTIONARY
(Second Edition)

Various Styles of Bindings
$25 $30 $35
Full information upon request

Send All Orders to

Printing EQUIPMENT *Engineer*
1276 W. Third Street Cleveland, Ohio

Iowa Conference

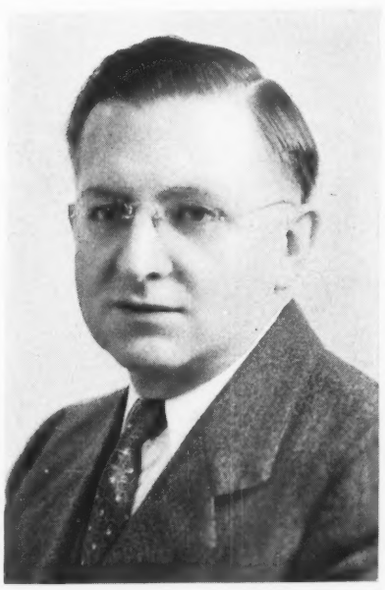
By STAFF WRITER

Interesting Meeting will be held in Iowa City, June 21 and 22

THE eleventh annual meeting of the Iowa Daily Newspaper Mechanical conference will take place in Iowa City on Monday and Tuesday, June 21 and 22, it has been announced by Ed C. Funk, president of the Conference.

Meetings will be held in the assembly room of the Iowa City *Press-Citizen's* new building, which will be completed this spring.

The meeting originally was scheduled for June 7 and 8, but because of a conflict with the dates of the A.N.P.A. Mechanical conference the later time was set.



Paul F. Kamler of the Clinton (Ia.) *Herald*, is Secretary of the Iowa Daily Newspaper Mechanical Conference.

This will be the first conference since pressroom and stereotype executives have joined the association, which formerly was the Iowa Daily Newspaper Composing Room Executives. The name was changed at the meeting in Waterloo last year.

This year's program will include subjects by leading authorities in all three branches. Machinists in charge of slug and typecasting machines are invited. As in the past, the question box will be a featured part of the program. Anyone attending is invited to bring as many questions as he may wish, and these will be brought up for discussion on the floor.

The officers this year are: Ed C. Funk, Waterloo *Daily Courier*, president; Guy Chappell, Iowa City *Press-Citizen*, vice president; and Paul Kamler, Clinton *Herald*, secretary-treasurer.

McMURTRIE DISCUSSES

"American Imprints" was the subject discussed by Douglas C. McMurtrie, Director of Typography of the Ludlow Typograph Company, at the luncheon meeting of the Midwestern Historical Conference, in Chicago recently. The speaker told of the methods of finding and listing pamphlets and books produced by pioneer printers throughout the United States, and stressed the importance to historians of the material so recorded. Many of the earliest examples of American printing are found in surprising places. Thus, the earliest known issues of the South Carolina press were found in London; the first pamphlet printed in Mississippi came to light in Seville, Spain.

AS WE SOW . . .

A bumper crop cannot be expected from soil that is indifferently prepared or from poorly selected seeds.

The printer who desires perfection must plan his groundwork from the beginning with modern presses and carefully chosen rollers. To these he adds proper plates, ink and paper, plus the skill of his workmen.

Only then is he prepared to produce, in accurate line and color, anything from the tiniest labels to the most colorful catalogs or periodicals.

The printer's use of Ideal Rollers is based upon his knowledge that they will assure him clean, clear impressions and freshness of color throughout the run, as well as more uniformity and less mechanical difficulty than with any other rollers.

By Ideal selection he guarantees perfection.

IRc

IDEAL ROLLER & MANUFACTURING CO.

CHICAGO • • • • NEW YORK

Sales and service branches are located in principal cities

VULCAN

INKING ROLLERS
PRESS BLANKETS
UNDERPACKINGS
and DRAW SHEETS

. . . a complete line of cylinder packings for newspaper presses, including both felt and non-felt blankets, E. D. blankets, draw sheets, and underpackings . . . the right blanket to insure best presswork, lowest cost, and trouble-free service.

Also for newspaper presses . . . Vulcolastic Inking Rollers. Non-rubber . . . no swelling. Soft and easy to set. Distribute and apply ink evenly.

• LITHOGRAPHERS: If you who read this are not among the majority of lithographers who are using Vulcan Offset Blankets . . . **try them!** You will quickly appreciate why these blankets have been considered standard in so many plants for twenty-five years. Different blankets for different purposes. And do you use **Litholastic Inking Rollers?** There's another money-saver for you! Completely synthetic. Free from stickiness, swelling, cracking, and chipping. Unaffected by temperature changes.

• PRINTERS: Vulcan Gelastic Inking Rollers are soft, resilient, and uniform. They eliminate losses of press time due to roller troubles. They are unaffected by temperature changes and are particularly good for modern high-speed presses. Finally, Vulcan Makeready Blankets. These blankets promote clean presswork and effect a substantial reduction of makeready time. They are oil-proof, flexible and very durable.

WRITE FOR PRINTED MATTER

VULCAN PROOFING COMPANY

First Avenue and Fifty-Eighth Street, Brooklyn, N. Y.

608 South Dearborn Street, Chicago

Ralph E. Leber Co., Seattle, Wash. . . Hi-Speed Roller Company, New Orleans, La. . . McKinley Litho Supply Co., Cincinnati, Ohio . . . Osgood Globe Corporation, Boston, Mass. . . Home City Electrotype Works, Inc., Springfield, Mass.

Super-Imposition

By C. L. RAY*

Novel type effects secured by double rolling mats for advertisements.

SEVERAL articles in recent issues of *Printing* EQUIPMENT *Engineer* interest me highly, inasmuch as we have experimented with and are printing at frequent intervals in our papers, advertisements with various patterns of backgrounds over which have been superimposed type matter, which have been produced by the double-rolling method in the stereotype department. It must be emphasized, in attempting to impose lettered matter upon various backgrounds we kept in mind that the method must be adaptable to (1) The demands of the advertiser; (2) The material and machinery at hand; (3) The time likely to be available which could be spared from regular plant production, and (4) The abilities of the stereotypers in our plant who must do the manipulating.

In the attempt to adapt it to the demands of the advertiser, all efforts have been directed toward imposing lettered messages upon regular matter picked from service files. This means, of course, that the available background material covers a vast range in consistency. It means, too, that those craftsmen in our plant who made the experiments are justly proud that our method has gone beyond the mere superimposing of the matter upon benday screen.

As to material and machinery, we have done practically all our work on a Scott two-speed newspaper matrix rolling machine. We have used mill-treated, $\frac{9}{16}$-in. shrink mats of the least thickness possible. A mat 0.024 in. thick is preferable for the reason that the type-impress be firm and to the bottom of the mat in order to eliminate the dots of the background screen when the type matter is molded over the background.

We have found that an average of thirty minutes is required for finishing a cut, counting from the time all material for the subject matter is available. This time is consumed in making

(1) A regular blanket impression of the screened background (it is very important that this be a blanket-impression in order to get regular depth on screen matter);

(2) Rolling a blanket impression of the to-be-imposed matter (a recent effort, used in an ad in our papers used flat-cast loose matter with cast type);

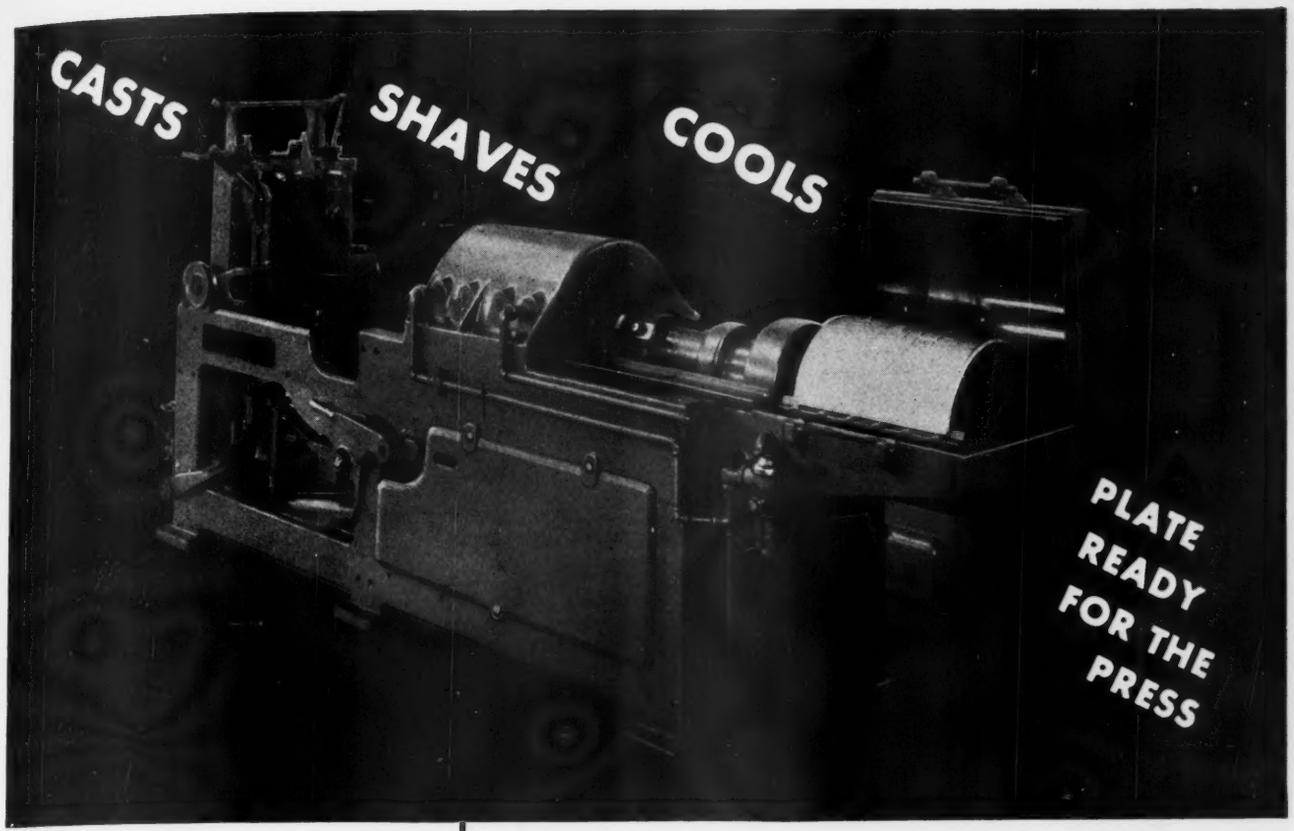
(3) Casting a flat-cast of the to-be-imposed matter and in removing all possible surplus metal, and

(4) Rolling a steel-to-mat impression of the flat-cast upon the screened background mat.

So far, to take up briefly the fourth operation mentioned above, we have made no attempt to reduce the comparative impression depths to certain gauges, trusting rather to the good sense of our stereotypers to obtain best results. To get away from changing the "set" of the matrix roller they have evolved a build-up of shell-casts and proving-galleys to make up the difference when the second steel-to-mat roll is made. And they use a shell-cast in lieu of the top blanket in making the second impression. A thin sheet of malleable steel would be better than the shell cast, in our opinion.

Two facts are very important. First, care should be exercised in the selection of backgrounds upon which the type matter is to be imposed, keeping always in

*Associated with the Winston-Salem *Journal*, Twin City *Sentinel* and the *Journal and Sentinel*, Winston-Salem, North Carolina.



Recent Purchasers of Pony Autoplates

WATERLOO, IA., *Courier* (Repeat Order)
ANN ARBOR, MICH., *News*
LOS ANGELES, CAL., *News*
NEW BEDFORD, MASS., *Standard-Times* Two Machines (Repeat Order)
DURHAM, N. C., *Herald-Sun* (Repeat Order)
BECKLEY, W. VA., *Post-Herald*
JOHANNESBURG, SOUTH AFRICA, *Express*
GREENSBORO, N. C., *News*
PORTLAND, ME., *Press Herald* (Repeat Order)
CHARLOTTE, N. C., *Observer* (Repeat Order)
NEW BRITAIN, CONN., *Herald* (Repeat Order)
SCHENECTADY, N. Y., *Union-Star*
WEST PALM BEACH, FLA., *Post* (Repeat Order)
CHATTANOOGA, TENN., *Free Press*
BERKELEY, CAL., *Gazette*
TORRINGTON, Conn., *Register*
KNOXVILLE, Tenn., *Journal*
SCRANTON, PA., *Times* (Repeat Order)
FORT WAYNE, *News-Sentinel* (Two)
YOUNGSTOWN, OHIO, *Vindicator* Two Machines (Repeat Order)
BOSTON, *Transcript* (Two Machines)
SAN DIEGO, CAL., *Union Tribune* (Repeat Order)
AURORA, ILL., *Beacon-News* (Repeat Order)
MCKEESPORT, PA., *Daily News*
MONTCLAIR, N. J., *Times*
FALL RIVER, MASS., *Herald News* (Repeat Order)
NEW YORK, N. Y., *Fairchild Press, Inc.* (Repeat Order)
UTICA, N. Y., *Observer-Dispatch* (Repeat Order)
BROCKTON, MASS., *Enterprise*
BAY CITY, MICH., *Times*
KNOXVILLE, TENN., *News-Sentinel*
SAN DIEGO, CAL., *Sun* (Repeat Order)
BALTIMORE, MD., *Afro-American*
MUNCIE, IND., *Star*
WINSTON-SALEM, N. C., *Journal and Sentinel*
ALLENTOWN, PA., *Call-Chronicle*

THE NEW EXTRA-HEAVY PONY AUTOPLATE

For Faster, Better, More Economical Stereotyping

SAVINGS as compared with handbox equipment: 1. The cost of recasting warped plates is eliminated. In the Pony Autoplate, plates are not subjected to handling strains and therefore come off uniform and true. 2. Plates made by the Pony Autoplate are approximately five pounds lighter than plates made with handbox equipment . . . a saving of about 10% in the amount of metal melted and cast. 3. In many cases the Pony Autoplate can be designed to provide an increased page length of from 2 to 5 agate lines—from 16 to 40 additional lines per page. 4. The Pony Autoplate occupies less than half the floor space required for handbox equipment. 5. The Pony Autoplate requires no compressed air, hence no electric power is used for driving a compressor unit and there is no maintenance of compressor equipment. 6. Power economy. The Pony Autoplate operates only when the plate is being shaved. It does not run continuously—in fact, it cannot be started unless the plate is locked in the shaving arch.

The Pony Autoplate effects many other savings. It accelerates production in both foundry and pressroom. Write for folder.

WOOD NEWSPAPER MACHINERY CORPORATION

PLAINFIELD, NEW JERSEY
NEW YORK OFFICE: 501 FIFTH AVENUE

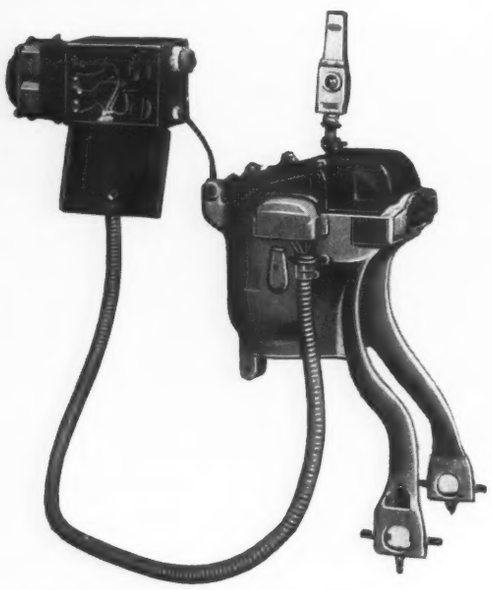
The Induction Principle

of heating ELECTRIC POTS and REMELTING FURNACES has manifest advantages.

These advantages have been demonstrated over a period of more than fifteen years.

With a Ludwick Induction Electric Pot or Furnace you have practically no maintenance cost—and even your first cost is lower.

A non-technical booklet explaining the induction principle of heating is now available. . . . A copy is yours for the asking.



Ludwick Induction Pot for Intertype or Linotype Machine

AN ACE BELT is not just "another fabric belt." It is made better—and will wear better on your typesetting machine. It is warranted for a minimum of a year's service.

TRADE ★ MARK

"Star" Parts and Repair Service are a distinct contribution to lowered composing room costs. We shall be glad to tell you why.

•

LINOTYPE PARTS COMPANY

NEW YORK
203 Lafayette St.

KANSAS CITY
314 West 10th St.

CHICAGO—318 West Randolph Street
LOS ANGELES—1133 Maple Ave.

mind that black matter upon light grey or shaded-white will show up better than black upon black. It is a paradox, inexplicably so, but one of our best jobs was done with black type upon a small, almost-black screen of a fence. One should notice, though, that the effect is gained by eliminating the white "cups" to as great degree as possible.

The second and important fact is the allowance of time for the whimsically earnest stereotyper to hand-tool the finished product. He can do wonders with blacks with a little rubbing with cold steel. He can do more with the page mat, after the cut is inserted, in cleaning up dirty screen-spots by the familiar method of "bumping."

Bearing the above skeleton facts in mind, and having a bit of time and desire for experimenting, there are possibilities as yet untouched in this naturally restricted field. Many background designs as yet untried might well result in selling a difficult customer. It is a pleasing job to attempt to adapt existing machinery and materials to new ideas, providing there is time in which the experimenting may be done.

NEW INTERTYPE MEN

Several new sales representatives have joined the Intertype organization during the past few weeks. J. H. Wade will travel in Louisiana and Arkansas, Amos Hoffman in parts of Pennsylvania and New York, and Herbert Tanneberger in Delaware, Maryland, and parts of West Virginia. W. H. Asdel will represent Intertype in Arizona and New Mexico, while E. J. Lansing will work in Minnesota.

KARNAK INTERMEDIATE

Karnak Intermediate, shown below, is a new weight in the Ludlow Karnak family, in between the Light and the Medium. It is probably the most legible member of the family, being of a weight well suited

A LUDLOW DESIGN In the Karnak family

for setting body matter of advertisements and broadsides. Its conservative color makes it suitable for dignified display.

Karnak Intermediate is available in matrix form in sizes from 6 to 72 point. Specimen sheets are available on request addressed to the Ludlow Typograph Company.

G.E. FINANCIAL CONDITION

At a meeting of the Board of Directors of General Electric Company held in New York, N. Y., early in March, the preliminary results for 1936 were presented, showing sales billed amounting to $268,545,000, compared with $208,733,000 for 1935, an increase of 29%. There was published in January a statement showing orders received for 1936 amounting to $296,748,000, an increase of 37% over 1935. The annual report was mailed to stockholders the latter part of March.

Net income for the year, after all charges including provision of $300,000 for federal surtax on undistributed profits, amounted to $43,947,000, an increase of 58%, and was equivalent to $1.52 a share of common stock. The increase was due, in part, to an increase in income from investments.

After payment of cash dividends on common stock of approximately $21,600,000 in December, which included the dividend for the fourth quarter formerly payable in January, cash and marketable securities amounted to $92,030,000 compared with $93,710,000 at the close of 1935. Substantially all of the marketable securities mature within five years.

Current assets amounted to $178,625,000 and current liabilities were $29,841,000. Corresponding figures at the close of 1935 were $166,965,000 and $26,266,000, respectively. The Company has no preferred stock, funded debt, or notes payable outstanding.

"So the Competition Isn't Active?" is the title of a booklet issued by S. D. Warren Co. Booklet is preliminary to publication of book containing suggestions for sales procedure under the new conditions.

GINSBERG MADE MANAGER

The appointment of Charles W. Ginsberg as manager of the Middle Western States with headquarters in the *Chicago Daily News* Building has been announced by officials of R. Hoe & Co. Mr. Ginsberg was educated in Manual Training High School, Brooklyn, N. Y., and Brooklyn Polytechnic Institute, having studied mechanical engineering.

Thomas A. Hession, formerly a members of the sales organization of Hammond Machinery Company, Kalamazoo, Mich., it was announced recently, has been appointed to the Hoe sales staff, operating out of the company's New York office.

DESCRIBES INTERTYPE ROUTINE

A twelve-page special article in *American Business*, entitled "Management Methods Used in the Current Intertype Modernization Program," carries thirty pictures of Intertype factory and office departments, with a detailed description of some of the modern methods and equipment employed to keep track of details in the manufacture and distribution of Intertype machines and supplies. Special emphasis is given to the Intertype methods employed to prevent errors in the handling of orders and machines, parts, and matrices.

MARGACH MOVES

Herman Diamond, President, has announced the removal of the Margach Manufacturing Company, Inc., to 82 Beekman St., New York. The new quarters provide for increased floor space.

ACQUIRES CONTINENTAL

The International Printing Ink Corporation has acquired control of the Continental Color Corporation, Cleveland, which will be operated as an I.P.I. subsidiary, effective immediately. No changes in personnel are contemplated.

The Continental Company, headed by Fred George, has developed a process for coloring all types of package papers, including "liner board" for the corrugated shipping container field. The process is said to employ radically new formulations. It is understood that I.P.I. will promote its use actively through the sale of the necessary color materials and equipment for applying the colors.

WORLD TRADE IMPROVES

The rapid improvement of general business conditions is shown by the records of the Leipzig Fair just closed. The attendance this year totaled 278,000 from seventy-four countries in every corner of the globe, establishing a new record for the 700 year old Fair. The Fair comprised 8897 exhibits, a gain of 10 per cent as compared with 1936. There were over 33,000 exhibitors and buyers from foreign countries as compared with 25,000 last year. The foreign exhibits were doubled in comparison with the previous year. American participation showed an increase of fully 100 per cent. For centuries the Leipzig Fair has been considered a barometer of world conditions by many observers.

JOIN MERGENTHALER

Walter F. Streit, who has had many years of practical experience as a compositor, operator and machinist, is now representing the Mergenthaler Linotype Company in western Michigan and in four counties in northern Indiana—Steuben, Lagrange, Elkhart and St. Joseph counties. His headquarters at present is the Pantlind Hotel, Grand Rapids, Mich.

Cliff C. Holy, who is widely known in the Middle West as an expert Linotype machinist, as a member of the Chicago agency staff of the Mergenthaler Linotype Company, is now covering part of Chicago, five counties in Illinois and three in Indiana.

OPENS NEW OFFICE

Type & Press of Illinois with main office in Chicago, has opened a branch office and display room at 1712 Chestnut St., in St. Louis. New and rebuilt equipment will be offered. Frank A. Hill is in charge of the new establishment.

TO BE HELD IN CLEVELAND

The Board of Directors of the National Association of Photo-Lithographers in session March 20th, selected Cleveland, Ohio, as the place for the convention. The three day convention will be held Thursday, Friday and Saturday, October 14, 15 and 16. The convention will be held at the same time and place as the Direct Mail Advertising Association. Paul A. Heidke is president and Walter E. Soderstrom executive secretary of the National Association of Photo-Lithographers.

Send for this unusual new demonstrator

REX PASTELS

- There's a wealth of good selling ideas for you in this new Demonstrator. Dummies and sample layouts that can be placed on the prospect's desk to show him the exact effects and pleasing combinations you can secure with Rex Pastels—Splitcolor, Colored, and Duplex Enamels.

- This new line opens up surprising new sales promotion possibilities—inexpensive for your customers and profitable for you, and it's easy and interesting to demonstrate with this handy kit. Ask your jobber or write us today for your Rex Pastel Demonstrator.

DISTINCTIVE PAPERS
REX

REX PAPER CO.
KALAMAZOO • MICHIGAN

Profit with a New C&G

No. 3 OR 3-A

SAW TRIMMER

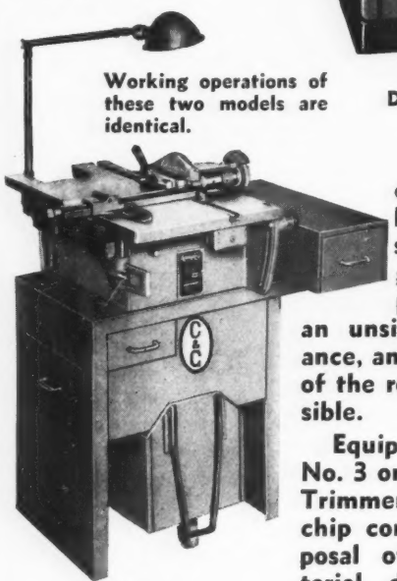
Different from other saw trimmers? Yes! They had to be different to meet present day exactness. That difference means profit to you.

C&G Saw Trimmers are better; that is why the Milwaukee Journal installed seven of them, and the Buffalo Evening News five. Many installations by commercial printers and trade plants.

C&G Saw Trimmers have ball bearing spindle construction.

No. 3-A Deluxe Model

Working operations of these two models are identical.



No. 3 Cabinet Model

Coops or chip guards built around saw trimmers give a composing room an unsightly appearance, and a clear view of the room is impossible.

Equip with a C&G No. 3 or No. 3-A Saw Trimmer. They have chip control and disposal of waste material designed into them.

Mail this coupon for descriptive literature of the above models, which also includes information on Universal Saw Blades, Saw Grinding Unit, Trimmer Knife Grinder, Strip Material Cabinets, Waste Receptacles, and other of our manufacture.

Milwaukee Saw Trimmer Corp.

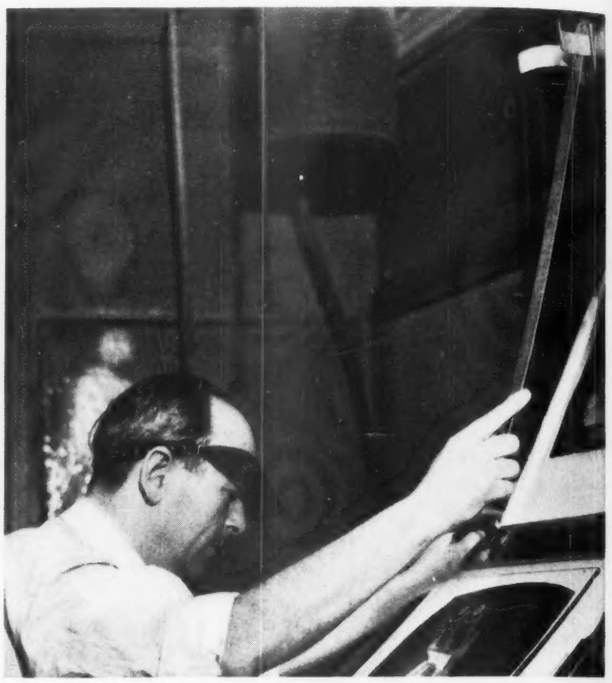
610-612 East Clybourn St., Milwaukee, Wis.

Equipment

(Continued from Page 28)

Novel Printers' Rule

Arthur H. Gaebel, well known to many printing plant mechanical and production executives, has announced a novel rule for use by advertising agencies, advertisers, layout men, ad alley compositors, engravers



and printers generally. The rule is tempered stainless steel. It can be bent almost double and when released will return to its original straight condition instantly. The rule is graduated to read in inches, picas and agate measurements. One side of the rule is graduated on both edges to read in inches, by sixteenths up to 24 in. One edge of the opposite side is graduated in picas, graduations spaced 0.996 in. apart to a total of 144 picas. The opposite edge of this same side is graduated in agate divisions up to a total of 330 agate lines. The graduations for the agate scale are of the new pipe organ type for easy reading. The figures are large and are so arranged that any dimension can be located with ease.

In actual use, conversions from agate lines or picas to inches can be obtained by placing a thumb-nail on a scale mark and by giving the rule a half turn the conversion into inches, or from inches to picas or agate lines, is easily read without mental effort and without loss of time.

Each rule is numbered and the numbers are registered with the manufacturer so that in case a rule is lost, it can be advertised for and recovered.

A novel feature is that a "blindman's hanger" accompanies each rule. The hanger is shaped so that there are wings on either side of the peg upon which the rule is to be hung. The rule may be hung in a convenient position near stripping or layout table. This provides a means for either grasping the rule or returning it to its peg in the hanger without the operator lifting his eyes from his work.

Further information may be obtained from Arthur H. Gaebel direct or in care of *Printing* Equipment *Engineer.*

P-Double-E File No. 1N.

18 Pt. Textype

A new and larger member has been added to the Linotype Textype family—18 point Textype with Italic.

"While Textype was cut primarily as a book and periodical face and for text books" says C. H. Griffith, vice president in charge of typographic development with the Mergenthaler organization, "it is being widely used as a newspaper body type. The 18 point size was cut specifically for juvenile books, but it can be used for heads on society, women's and feature pages of newspapers."

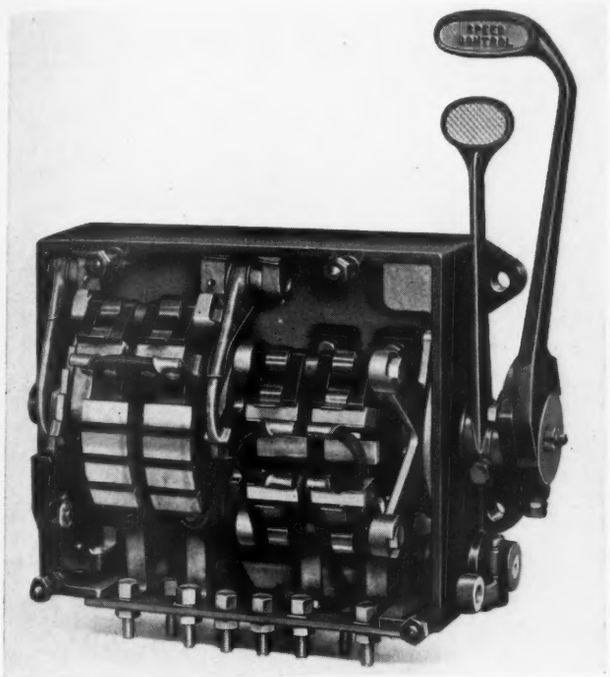
Linotype textype is available with Bold Face No. 2 or with Italic and Small Caps in the 6, 7, 8, 9, 10, 12 and 14 point sizes.

HERE is a showing of Linotype Textype in combination *with Italic. Modern man*

Rotor Brush Power Flow Control

Automatic Transportation Co. has announced a change which has been made in the design of its industrial truck controllers. This new controller carries a motor type brush mounting which is rotary in action.

The stator segments are commutator type and are unit moulded into a permanent insulated base with no loose



segments and no separate parts. This base is a stationary mounting.

Another feature is that the brushes are provided with a constant spring tension which is self compensating and requires no manual adjustment. These are also constructed with large contact areas which result in low voltage loss.

This controller will be the new standard motor control to be used on every "Automatic" Industrial Truck, Tractor and Crane.

A fully illustrated and descriptive bulletin is available on this new Rotor-Brush Power Flow Control. It will be sent upon request to the Automatic Transportation Co. direct or in care of *Printing* EQUIPMENT *Engineer*. P-Double-E File No. 4D.

(Continued on Page 45)

Prices in the U. S. and Canada

Effective May 1, 1937:
75c per large tube;
$6 per dozen tubes;
$5 per dozen tubes in gross lots.
Stand-A-Lone Holders 2 for 25c, per doz. $1

Modernize Your Printing Plant

Install every modern means to bring the Production Departments up-to-date. Get rid of the annoying details associated with laying cuts loose on bases before sending forms to the stereotype department. Save money by installing Booth's method of mounting cuts. Zink Cut Cement anchors cuts of all kinds to wood or metal bases with great tenacity.

Cuts mounted in the position indicated in the layout and fastened with Booth's Zink Cut Cement "stay put." Complaints caused by crooked or inverted cuts will cease and you can forget all about them.

Cuts may be easily removed from bases and cleaned after use if necessary.

It is necessary to advance the prices of Zink Cut Cement because of the increasing costs of materials used in making the cement, increased production costs and greater cost of the tubes in which the cement is packed.

Because we have built our reputation upon consistently uniform products, we have decided to advance the prices rather than to cheapen the Zink Cut Cement.

•

The E. A. **BOOTH** Rubber Co.

364 Rockefeller Bldg. Cleveland, Ohio

Their reputation is based on fine

PERFORMANCE

• A reputation based largely upon looks or old-fashioned claims is not worth much today. In modern business as well as sport, the winners are those which out-perform all rivals. Consistent, fine performance is the outstanding reason for the wide acceptance of Zomo Electric Zinc and A-Z Alloy.

Both of these metals are melted and cast in electric induction furnace, which we have developed and on which we control all basic patents. The composition of these metals is governed by exact formula to assure quick, clean etching. They are made for engravers who realize the value of consistent uniformity. Zomo Electric Zinc for all regular work, A-Z Alloy, the tougher metal of equal etching speed, for all long runs. To cut losses and assure results, order these two modern metals from any of the following: Rolled Plate Metal Co., National Steel and Copper Plate Co., Pacific Steel and Copper Plate Co., C. G. Hussey & Co., Bridgeport Engravers Supply Co., American Steel & Copper Plate Co., W. E. Booth Co., Ltd., Canada; Hunter Penrose, Ltd., England.

ZOMO ELECTRIC ZINC

A-Z ELECTRIC ALLOY

Patents

February-March

Composing Machines:

2,072,612. TYPOGRAPHICAL SLUG CASTING MACHINE. Christian Augustus Albrecht, Berlin, Germany, assignor to Mergenthaler Linotype Company, Brooklyn, N. Y., a registered company of New York. Application March 29, 1935, Serial No. 13,624. In Germany May 18, 1934. 10 Claims. (Cl. 199—54.)

1. In a typographical slug casting machine, the combination with a mold, a mold slide and a slug-trimming unit adapted to trim the printing faces of slugs in the mold, of means fixed to the machine frame adapted to support the slug-trimming unit and relatively to which the unit is movable to active and inactive positions, and coupling means adjustable to connect the unit with the mold slide in either of the positions.

2,073,115. TYPESETTING APPARATUS. Edward L. Mellinger, Dunbar Township, Fayette County, and Orrell R. Herwick, Connellsville, Pa. Application June 10, 1935 Serial No. 25,700. 24 Claims. (Cl. 199—18)

1. In a typecasting machine including an assembler movable between receiving and discharging positions, a plurality of magazine channels for the storage of type matrices, a plurality of key-rods severally controlling the release of matrices from the channels, and means for introducing the released matrices into the assembler when it is in receiving position; the combination of a vacuum system including a plurality of pneumatic actuating devices severally organized immediately with the key-rods, pneumatic means for moving the assembler between its alternate positions, a tracker plate, and means responsive to the advance of perforated tape over the tracker plate for selectively operating the pneumatic devices, whereby a line of predetermned matrices is assembled in the assembler and the assembler is automatically moved into discharge position.

2,070,903. SHEET FEED CONTROL MECHANISM. Jay F. Horst, Seattle, Wash. Application February 26, 1934, Serial No. 712,950. 13 Claims. (Cl. 271—27.)

1. In sheet-feeding structure, in combination with a table adapted to support a pile of the sheets, means for delivering an air jet between the upper sheets of the pile for separating the same, and means for withdrawing the separated sheets successively, the table being arranged for vertical movement responsive to the successive withdrawal of the sheets to maintain the upper level of the pile on a constant plane, guide means for maintaining the individual sheets of the pile in alignment comprising a reach member supported to locate the outer end of the same in the vertical plane of the rear end of the pile, a spring carried by the reach member for yieldably engaging the uppermost sheet in the pile, means for regulating the tension of the spring, and a pair of guide arms suspended for lateral swinging movement from opposite sides of the reach member to engage the rear face of the pile, the swinging movement of the guide arms acting to accommodate table elevation as the same rises directively of the plane of the top level of the pile responsive to the withdrawal of the sheets.

2,070,572. FEEDING ATTACHMENT FOR PRINTING PRESSES. Walter D. Berry, Orangeburg, S. C., assignor of thirty-three and one-third per cent to May Whetstone Berry, Orangeburg, S. C. Application October 27, 1934, Serial No. 750,367. 11 Claims. (Cl. 101—287.)

1. Sheet-feeding mechanism for a printing press comprising a frame having an upper inclined deck upon which sheets may be stacked on edge and a lower bed upon which the printed sheets may be delivered, means to withdraw a single sheet from the stack, means to grip the lower edge of the withdrawn sheet and carry the same to printing position, means for gripping the upper edge of the sheet as it moves to printing position, the lower gripping means being released as the sheet is withdrawn from printing position and the upper gripping means being released as the sheet assumes a position above the delivery bed, and an oscillatory frame supporting the second and third mentioned means.

2,071,440. WEB SUPPLY MECHANISM. John R. Tomlin and Arvid Lundquist, New York, and Albert J. Horton, White Plains, N. Y., assignors to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York; Irving Trust Company, permanent trustee. Application March 3, 1932, Serial No. 596,508. 95 Claims. (Cl. 242—58.)

84. In a web supply mechanism, a rotatable web roll supporting member, means to rotate the member, and means prepositioned in accordance with the diameter of a replacement roll supported on the rotatable member to limit the amount of rotation thereof.

Miscellaneous:

2,071,123. MACHINE FOR CUTTING, FOLDING, AND STACKING LABELS. Edward J. Hubelmeyer, Little Ferry, N. J., assignor to J & H Machine Works, Little Ferry, N. J., a corporation of New Jersey. Application January 14, 1935, Serial No. 1,672. 19 Claims. (Cl. 271—85.)

1. In a machine, means for stacking folded labels comprising a pair of pivoted, positively actuated and positively controlled label gripping members, means for moving one member beneath the folded label, positively actuated means for moving the other member into engagement with the upper surface of the folded label, and means for swinging the members in unison to inverted discharge position.

2,071,915. MACHINE FOR COATING PRINTERS' ROLLERS. Carl G. Bingham, Highland Park, Ill., assignor to Sam'l. Bingham's Son Mfg. Co., Chicago, Ill., a corporation of Illinois. Application September 11, 1933, Serial No. 688,951. 8 Claims. (Cl. 91—32.)

6. The method of coating a printer's roller which consists in rotatably journaling the roller in an inclined position and progressively downwardly immersing a relatively short longitudinal section of the underside only of the rotating roller in a body of melted composition and maintaining the level of the body substantially constant relative to the axis of the roller.

2,072,297. PRINTING ROLLER. Samuel F. Damm, Niagara Falls, N. Y. Application March 20, 1935, Serial No. 11, 991. 9 Claims. (Cl. 101—375.)

1. A printing roller comprising a roller body of sheet metal, heads for the body, a corrugated sleeve for reinforcing the body, and an outer corrugated sleeve for receiving and holding the printing designs.

Patent Papers:

Printed copies of patents are furnished by the United States Patent Office at 10 cents each. Address the Commissioner of Patents, Washington, D. C., and enclose 10 cents for each patent paper wanted.

2,073,528. METHOD OF MAKING PRINTING ROLLS. Moyer M. Safford, Schenectady, N. Y., assignor to General Electric Company, a corporation of New York. Original application September 11, 1931, Serial No. 562,353. Divided and this application May 27, 1932, Serial No. 613,853. 5 Claims. (Cl. 91—67.8.)

1. The method of making a printing roll which comprises providing a core with a surface layer of alkyd resin comprising the product of reaction of a polybasic aromatic acid, a polyhydric alcohol having three or more hydroxyl groups in the molecule, a dibasic aliphatic acid and a dihydric alcohol, and converting the resin to a resilient state.

2,073,229. PRINTING INK COMPOSITION. Ralph C. Shuey, Mountain Lakes, N. J., assignor to Bakelite Corporation, New York, N. Y., a corporation of Delaware. No Drawing. Application May 11, 1935, Serial No. 21,069. In Great Britain October 15, 1932. 13 Claims. (Cl. 134—000.)

1. In a printing ink prepared by incorporating from about 20 to 80 per cent of pigment in a vehicle of the drying oil type and dependent for solidification in part at least upon the drying of the oil content of the vehicle, the improvement comprising a vehicle containing a drying oil, an oil-soluble reaction product of a phenol with an agent having a reactive methylene group, the product constituting from approximately one to fifty per cent or about by weight of the vehicle and having an accelerating effect on the solidification of the drying oil, and a solvent compatible with the other constituents of the vehicle and characterized by slow volatility at ordinary room temperatures in proportion to produce an ink having a consisteney suitable for transfer by a printing surface with but little tendeney to change before application and drying with rapidity after its application through the sonlification-accelerating action of the resin on the drying oil.

Plate Making:

2,071,646. MEANS FOR MAKING RUBBER PRINTING TYPE AND PLATES. Louis Melind, Chicago, Ill. Application December 16, 1932, Serial No. 647,562. 8 Claims. (Cl. 18—44.)

1. In a matrix frame, a plurality of bar members secured together to form a frame structure, differently shaped grooved means extending longitudinally along the inner edge of each of the members for securing a matrix in predetermined position within the frame and against displacement therefrom, and unequally spaced means formed in the bar members for aligning the frame upon a chase.

2,072,106. MATRIX TRIMMER. James W. Fitzsimmons, Oakland, Calif. Application January 20, 1936, Serial No. 59,940. 8 Claims. (Cl. 164—59.)

1. A matrix trimmer comprising a holder having a cylindrical concavity identical with the cylindrical concavity of a casting mold for stereotype plates and having a shearing edge on one longitudinal edge thereof; a limiting stop mounted upon the opposite longitudinal edge of the holder; pressure means mounted in spaced relation with the shearing edge of the concavity for bending a matrix to be trimmed against the stop and in conformation with the concavity; and shearing means mounted for movement between the pressure means and shearing edge and operating in conjunction with the shearing edge for trimming a matrix bent into the concavity to the edge thereof whereby the matrix may be accurately fitted, circumferentially, within a casting mold.

2,073,056. CURVED STEREOTYPE PRINTING PLATE. William Gerrard, Timperley, England, assignor to Wood Newspaper Machinery Corporation, New York, N. Y., a corporation of Virginia. Application November 1, 1935, Serial No. 47,830. In Great Britain November 6, 1934. 6 Claims. (Cl. 101—375.)

1. A curved stereotype printing plate having on its concave surface a plurality of longitudinally spaced circumferential ribs presenting a greater amount of rib metal longitudinally of the plate in the region of the center of the plate than at the edges thereof.

2,073,040. REGISTRATION OF PRINTING PLATES. Henry A. Wise Wood, New York, N. Y., assignor to Wood Newspaper Machinery Corporation, New York, N. Y., a corporation of Virginia. Application March 3, 1932, Serial No. 596,474. Renewed August 13, 1936. 3 Claims. (Cl. 101—395.)

1. The method of preparing a series of matrices for use in producing a set of plates to be used for printing in different colors on the same surface which consists in making all of the matrices with perforations through them in their margins in the same place on each matrix and in locating the matrices in the casting box, one after the other, with the perforations on the several matrices in exactly the same place in the casting box, for the purpose described.

Printing Presses:

2,070,667. DOCTOR BLADE MECHANISM FOR INTAGLIO PRINTING MACHINES. Frederick Grafton Lougee, London, England, assignor to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York. Application December 19, 1934, Serial No. 758,156. In Great Britain December 20, 1933. 17 Claims. (Cl. 101—157.)

1. The combination of a printing cylinder for receiving an etched printing plate, two doctor blades, a carrier for each blade and devices operating to cause the carriers to be moved through a closed looped path extending from a reserve position to an operative zone and back to reserve position, the operative zone extending through a substantial part of the looped path so that both carriers can lie within the operative zone at the same time.

2,072,716. PRINTING PRESS. Theodore Loew, Brooklyn, N. Y. Application August 24, 1933, Serial No. 686,585. 21 Claims. (Cl. 101—252.)

1. An offset printing press including an impression receiving roller; means for holding a stack of paper; means for moving the roller into contact with the top sheet of the stack and across the sheet to print the impression on the sheet; and means for removing the top sheet from the stack after each printing operation.

2,072,909. PLATE CLAMP FOR PRINTING MACHINES. William Stephenson, Rutherford, N. J. assignor, by mesne assignments, to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York. Application June 22, 1932, Serial No. 618,651. 20 Claims. (Cl. 101—378.)

1. The combination with a printing cylinder having a printing plate thereon, of a plate clip slidably mounted on the cylinder, a locking pin rotatably mounted in the clip, an eccentric forming part of the locking pin, a spring carried by the cylinder and adapted to be flexed by the eccentric, and means for rotating the locking pin whereby the plate clip is projected and engages the printing plate with a yielding pressure.

2,069,504. INKING MECHANISM. Albert F. Pityo, Clifton, N. J., assignor to Tri State Cap & Cap Machinery Co., Inc., Newark, N. J., a corporation of New Jersey. Application December 4, 1935, Serial No. 52,746. 16 Claims. (Cl. 101—340.)

1. An inking mechanism for a reciprocating printing form embodying a carriage movable around the form and including a carrier on the carriage, a form inking roller thereon connected with the carrier, and two part cam structure engaged by the carrier for controlling the carriage and roller movement, one part of the cam structure movable with the printing form.

2,069,520. PRINTING PRESS. Paul F. Cox, Chicago, Ill., assignor to The Goss Printing Press Company, Chicago, Ill., a corporation of Illinois. Application July 2, 1932, Serial No. 620,580. 27 Claims. (Cl. 270—22.)

1. In a web fed printing press, a web feeding cylinder and a web cutting cylinder, the cylinders being of equal diameter and mounted on a single shaft, and means for directing two web reaches to the cylinders whereby one reach is forwarded and the other reach is cut into sheets.

Eliminate Guess Work!

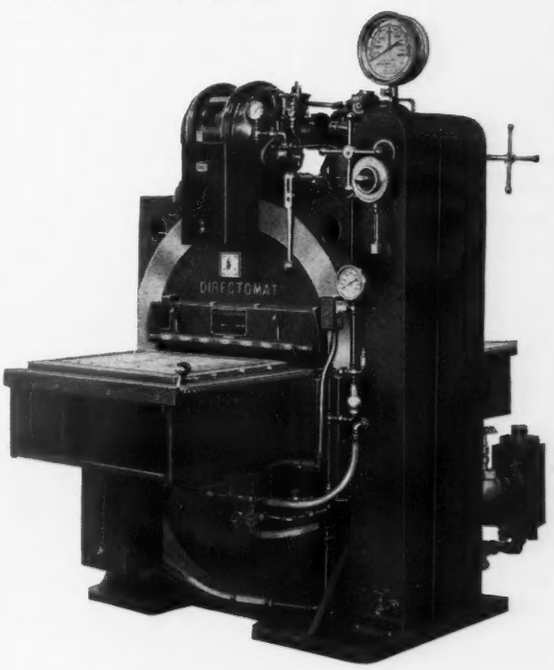
● Alert executives recognize a definite trend to eliminate rule-of-thumb methods and guesswork in mechanical operations. Modern composing room methods, foundry and press room equipment have gone far toward the goal of precision and quality printing.

● Another precision method is now provided by the DIRECTOMAT Hydraulic Matrix Press, which definitely eliminates the guesswork associated with the roller method of moulding.

● The DIRECTOMAT readily permits application of the correct amount of pressure to conform with the varying characteristics of form, mat and blankets. It also eliminates the stretch of the mat, which is unavoidable in roller moulding.

● The result is greater sharpness and uniformity of the type matter and more detail and contrast in the halftones.

● Nearly fifty DIRECTOMATS are now installed in 27 cities.



THE DIRECTOMAT

is suitable for dry mats (cold moulding) and wet or plastic mats (hot moulding).

Write now for full particulars or a demonstration in any of 27 cities.

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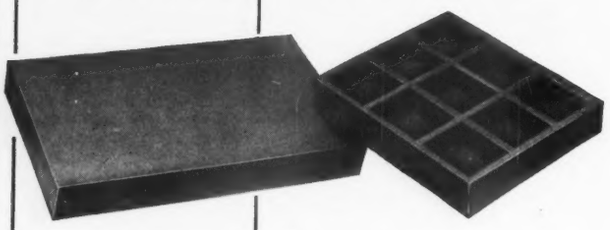


When you use

Challenge "Sta-Rite"

NEWSPAPER BASES

★ Cut time and labor costs . . . speed up the handling of unmounted electros, half-tones and zincs for stereotyping. Simply put Challenge Newspaper Bases in the form — lay the plates on top — and you're ready to "put the paper to bed." No hooks — no catches necessary to hold plates in place.

"Sta-Rite" Bases are made from fine-grained steel alloy castings with utmost precision. They come in solid or cored bases — will not dent or bruise — and withstand tight locking and intense heat. They are accurate, rigid — will not "give" or sag under pressure — non-shrinkable, and are a permanent addition to the equipment of any shop.

Inquire into the advantages of these bases and send for prices and sizes at once. Also investigate the Challenge Newspaper Base Cabinet — a time and labor-saver for the make-up man. Write today!

THE CHALLENGE MACHINERY CO.

GRAND HAVEN, MICH. S-176

CHICAGO, 17-19 E. Austin Ave. 200 Hudson St., NEW YORK

2,069,613. CYLINDER SEPARATING MECHANISM FOR PRINTING PRESSES. Alexander T. Koppe, New York, N. Y., assignor to General Printing Ink Corporation, New York, N. Y., a corporation of Delaware. Application February 17, 1934, Serial No. 711,776. 13 Claims. (Cl. 101—247.)

11. The combination in a printing press, of a plurality of cylinders, means for feeding paper sheets to one of the cylinders, inking means for supplying ink to another of the cylinders, means comprising a lever for effecting relative movement of the inking means and the cylinder supplied thereby, a latch for normally holding the inking means in operative position with respect to its cylinder, means for automatically actuating the lever to separate the inking means and the cylinder supplied thereby when the lever is released by the latch, means actuated by the failure of the feeding means to feed a paper sheet to the first named cylinder for separating the cylinders and releasing the latch, a manually operated bell crank lever, a link connecting one arm of the bell crank lever with the first named lever, and a stop for positioning the arm of the bell crank lever in substantial alignment with the link to prevent actuation of the first named lever when it is released by the latch.

2,069,656. TICKET PRINTING MACHINE. Andreas Kohler, Hennigsdorf, near Berlin, Germany, assignor to General Electric Company, a corporation of New York. Application October 24, 1934, Serial No. 749,857. In Germany October 25, 1933. 2 Claims. (Cl. 101—91.)

1. A ticket printing machine including the combination of a printing drum with adjustable type carriers, ratchet wheels for the type carriers, pawls cooperatively arranged with ratchet wheels, and means disposed within the printing drum for locking the pawls, such means comprising a locking drum and an intermittent gear for intermittently turning the locking drum.

2,069,918. STOP GUIDE ADJUSTMENT FOR PRINTING PRESSES. William Gegenheimer, Brooklyn, N. Y., assignor to Willard Manufacturing Corporation, New York, N. Y., a corporation of New York. Application August 26, 1936, Serial No. 98,093. 11 Claims. (Cl. 271—60.)

1. A stop guide mechanism for presses, a cylinder to receive sheets, a shaft arranged above the cylinder and parallel with the axis thereof, guide arms depending from the shaft, trunnions supporting the shaft, means for moving the shaft relative to the trunnions and parallel with the direction of movement of the sheet, a cam on the cylinder, a link connected eccentrically with one of the trunnions, and a roller on the link riding on the cam.

2,070,265. ROTARY PRINTING PRESS. Frank A. Foster, Maywood, Ill., assignor to The Goss Printing Press Company, Chicago, Ill., a corporation of Illinois. Application June 28, 1934, Serial No. 732,793. 14 Claims. (Cl. 101—220.)

1. In a printing press, an integral press unit comprising a primary unit frame mounted on the press bed, printing mechanism mounted in the unit frame and consisting of two printing couples, one above another, the impression cylinders of the printing couples being on the outside and with their peripheries close to the end of the unit frame, the upper couple occupying the uppermost part of the unit, inking mechanisms mounted in the frame unit on the same side of their respective printing couples, two of the primary frame units being securable directly to each other, face to face, with their printing couples within and closely adjacent to each other, to constitute a composite unit with perfecting units available either vertically or horizontally.

2,066,031. ADJUSTING MEANS FOR PRINTING PRESS ROLLERS. Park W. Cowan, Los Angeles, Calif. Application February 23, 1935, Serial No. 7,784. 1 Claim. (Cl. 101—348.)

A printing press inking roller truck comprising a supporting member including an externally screw threaded sleeve and a flange having a tapered face terminating in an annular shoulder, a collar having a tapered face terminating in an annular shoulder slidably mounted on the sleeve of the supporting member and rotatable therewith, an annular rubber tire mounted on the sleeve of the supporting member, and a nut threaded on the sleeve for expanding the tire, the annular shoulders on the flange and collar gripping and preventing the tire from working over the same when expanded, there being a plurality of radially disposed lugs formed on the faces of the collar and nut.

2,066,429. APPARATUS FOR OPERATING CYLINDER PRINTING PRESSES. Rudolf Stussi, Glarus, Switzerland, assignor to Druckmaschinen Aktiengesellschaft, Glarus, Switzerland. Application March 16, 1931, Serial No. 523,095. In Germany December 19, 1930. 3 Claims. (Cl. 101—282.)

1. In a cylinder printing press, the combination of a printing cylinder continuously rotating at uniform speed in the same direction, and a reciprocating form bed, the impression cylinder being reduced in diameter while retaining the arcuate length of the impression receiving segment as necessitated by the size of the sheet to be printed in such manner that the impression cylinder during the impression stroke of the form bed is turned through a greater angle than during the return stroke of the form bed, a crank drive for reciprocating the form bed, and means for actuating the crank drive in such a manner that the crank in that period in which the impression cylinder travels through the greater angle passes through one-half revolution at reduced speed while the crank in that period in which the printing cylinder travels through the smaller angle makes a half revolution at accelerated speed.

WILL GATHER DATA

An Advisory Committee consisting of three members of the National Association of Employing Lithographers and three members of the Amalgamated Lithographers of America with an impartial chairman, Dr. D. J. MacDonald, Educational Director of the Lithographic Technical Foundation, are conducting a survey of the lithographic industry in the metropolitan area of New York, N. Y., with the idea of establishing certain data. This pertains to the number of employees in the industry, the amount of machinery, the number of apprentices and the count of firms using the lithographic process.

This information will be used as a basis for student enrollment in the proposed apprentice and rehabilitation school to be conducted at the New York Trade School, New York, in conjunction with the Lithographic Technical Foundation.

Takes Place of Five-Foot Shelf

Printing Equipment *Engineer* takes the place of a five-foot shelf of trade catalogs and papers.

E. W. Sailer, Mechanical Superintendent
Wheeling (W. Va.) *News-Register*

Equipment

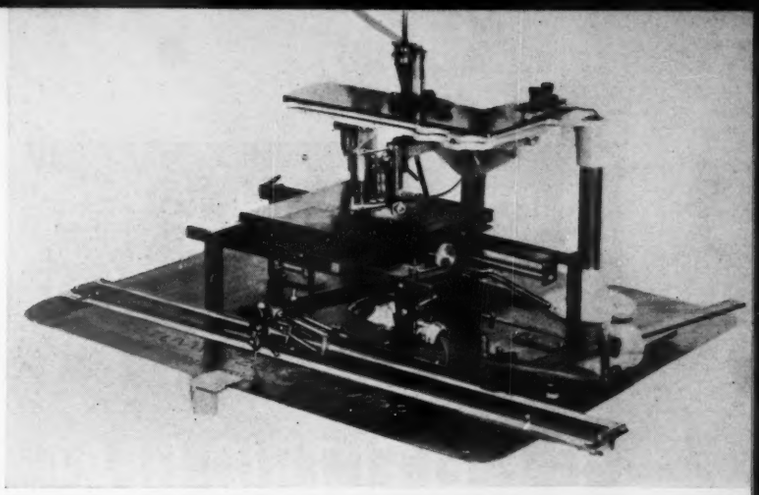
(*Continued from Page 41*)

Bagge Mechanical Engraving Machine

Bagge & Associates have announced a new method for producing art work in relation to lettering for litho-offset press plates without the use of photography. "As in most cases of prefected improvements in the practical field," state the sponsors, "the new process requires special knowledge and experience in the technique involved."

The principal implement, however, consists of a specially designed engraving machine for placing lettering of great variety upon the intermediate agency for the usual printing-down operation by contact and light for the press plate. Hand lettering and sketching are admissible in conjunction with the machine engraving.

Art work in selected letter styles for stationery, cards, catalogs and the like, may be created according to the



View of Bagge Mechanical Engraving Machine for offset press plate production.

ARMSTRONG WITH GOSS

Charles H. ("Army") Armstrong has joined the sales organization of The Goss Printing Press Company, and will be located at the eastern sales office, 220 E. Forty-second Street, New York, N. Y. His territory will include the state of New York, New England States and Eastern Canada.

Mr. Armstrong was formerly connected with a printing press company in the sales and field departments. His experience also includes five years as business manager of the Chicago *Journal of Commerce* and three years as superintendent of a large commercial printing plant.

WINS AYER CUP

Out of 1501 entrants, the Los Angeles *Times* was awarded the Francis Wayland Ayer Cup offered by N. W. Ayer & Son, Inc., in the seventh annual Exhibition of Newspaper Typography for outstanding typographical excellence. In addition to receiving the cup, which will become the permanent possession of the newspaper winning it three times, the Los Angeles *Times* received first award among the 130 newspapers with circulations of more than 50,000.

Second award among newspapers of more than 50,000 circulation went to the New York *Herald-Tribune* and third award to the Des Moines *Tribune*.

Among the 365 papers of 10,000 to 50,000 circulation, first place went to the Miami (Fla.) *Herald;* second to the Glendale (Calif.) *News-Press;* and third to the Hartford (Conn.) *Courant*.

In the less than 10,000 circulation division, in which 1,006 papers were entered, first place was given the *Evening Tribune*, Hornell, N. Y.; second, the *Daily Mining Journal*, Marquette, Mich., and third the Cape Cod *Colonial*, Hyannis, Mass.

A new trend in newspaper typography was evidenced by the judges' selection of two newspapers which have modernized their dress and two which where printed in two colors.

The cup won by the Los Angeles Times is a new one offered by N. W. Ayer & Sons.

FINGER-TOUCH GLIDING BALL-BEARING TABLE

"KWICK-SET" MICROMETER POINT MEASURE GAUGE

INSTANTANEOUS "FIRM-GRIP" WORK-HOLDER CLAMP

OVER-SIZE BALL-BEARING OIL-RETAINING SAW ARBOR

"DURA-STEEL" 7-INCH SAW BLADE & TRIMMER KNIVES

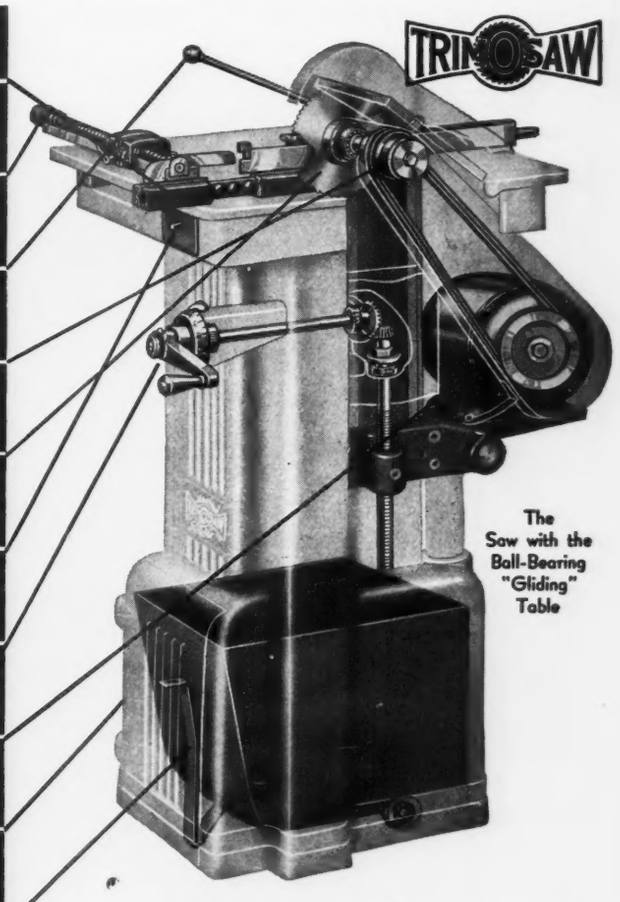
HEAVY-DUTY TOGGLE STARTING SWITCH

MICROMETER-GAUGED SAW-RAISING MECHANISM

REPULSION-INDUCTION MOTOR DOUBLE V-BELT DRIVE

MODERN NON-CLOGGING CHIP-RETAINING BASE

RUBBER-TIRED WHEEL MOUNTED CHIP BUGGY



The Saw with the Ball-Bearing "Gliding" Table

New Hammond Glider

Guaranteed to perform every composing room operation faster and better than any other saw

Send for the imposing list of Daily Newspapers now using the New Hammond "Glider" Trim-O-Saw—also the descriptive literature, prices, terms and trade-in allowance on your used sawing equipment—no obligation. ADDRESS DEPT. G-4.

Hammond Machinery Builders

NEW YORK KALAMAZOO, MICHIGAN CHICAGO

Write for New Descriptive Broadside

UNIFORM PLATES for 10 YEARS

The News-Sentinel

USES

G-E ELECTRIC HEAT

The News-Sentinel
FORT WAYNE, INDIANA

December 14, 1936

To Whom It May Concern:

Our "G-E" electrically heated stereotype furnace has been giving us highly satisfactory service ever since its installation in May, 1926.

Although electric heat has given us many advantages, such as clean, cool working conditions, and has saved us money on dross losses, we feel that its most important service has been in giving us, through its extremely accurate temperature control, absolutely uniform plates and exceptional uniformity of printed sheet.

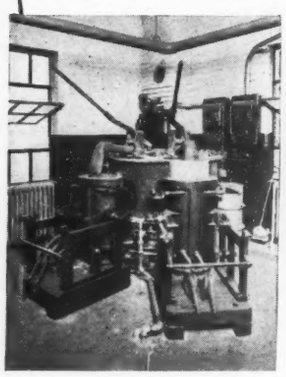
Sincerely yours

The NEWS - SENTINEL

Helene R. Foellinger

Publisher

H.R.Foellinger:R



Stereotype furnaces above, 6000-lb capacity, left, 9000-lb capacity—installed by the "News-Sentinel" in 1926

MORE than 10 years ago the *News-Sentinel,* Fort Wayne, Indiana, installed G-E electric heat in its stereotype furnaces, and the publisher, Helene R. Foellinger, writes that it "has been giving us highly satisfactory service ever since its installation."

Users all over the country are enjoying advantages and savings from G-E electric heat. Why not let us give you an estimate on the cost of electrifying your stereotype pots? Installation is easy and quick. Just telephone the nearest G-E sales office, or write General Electric Company, Dept. 6A-201, Schenectady, New York.

GENERAL ELECTRIC

160-59

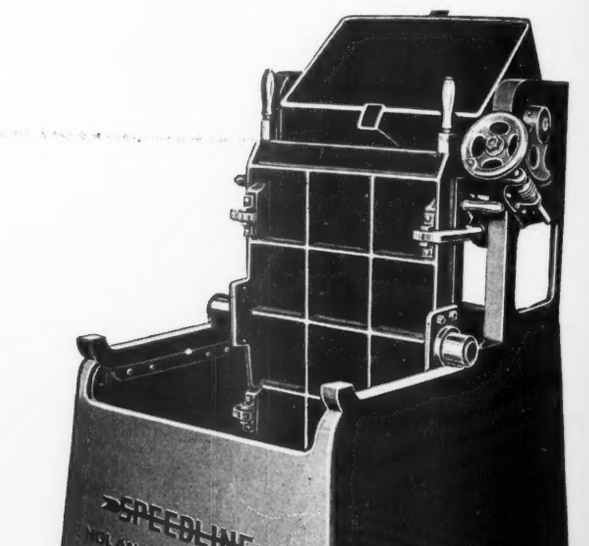
number of pattern plates in the equipment. Any point size lettering may be produced with one pattern. It is announced there are 160 varieties of pattern plates available. Two-color effects can be secured easily. A built-in arrangement provides for slanting letters as well as condensed, extended and shaded variations.

Sponsors claim this litho-engraving process also may be applied in connection with other printing methods with the aid of the etched zinc plate for electrotyping, stereotyping, etc. Halftones or illustrations may be prepared in the usual manner and laid in separately as is customary.

Further information may be obtained from Bagge & Associates direct or in care of *Printing* EQUIPMENT *Engineer.*

Full Page Flat Caster

A new Speed-Line full page flat caster has been announced recently. Officials of the Nolan Machinery Corporation state that since the caster is designed for type-high or shell casts that shifts are possible without mechanical change. Platens are regularly furnished to



cast up to 18 in. by 25½ in. including head, and open 28½ in. above the floor for convenience in operating.

The base of the caster is a heavy one-piece semi-steel casting completely enclosed.

The metal-melting unit is built-in and has a capacity of 750 lbs. of metal. The top of the pot is 48 in. from the floor. Tilting type pot is regularly furnished. The pot pours from the bottom through a special lip and is equipped with worm-gear handwheel control.

Gas, gasoline or electric units, with or without automatic control are available.

P-Double-E File No. 2Gb.

"Rolup" System Ink

The Scherer "Rolup" system for etching halftone cuts has been placed on the market by the Minneapolis

ANNOUNCING INCREASED MORRILL PLANT Facilities in CHICAGO

TO HELP maintain Morrill's high standard of service – and to meet the steadily growing demand for Morrill Inks – it has been necessary to add to the Chicago plant the new building shown here. This annex provides additional floor space and contains the most modern equipment in use today. It will be used for increasing the production of the famous quality inks that make Morrill tonnage sales, year after year, *the largest of any manufacturer in the world.*

FACTORIES
Norwood, Mass. • Tacony, Phila., Pa.
Chicago, Ill. • San Francisco, Calif.

BRANCHES
Boston • New York • Philadelphia
Detroit • Chicago • St. Louis
Minneapolis • Fort Worth • Los Angeles • San Francisco • Seattle

Inks BY **MORRILL**
STANDARD OF THE PRINTING WORLD

GEO. H. MORRILL CO.
Division General Printing Ink Corporation
100 SIXTH AVENUE, NEW YORK, N. Y.

Modernize in '37 with Morrill Inks

Tribune after three years' use of the "Rolup" system in its own engraving plant. The basis of the "Rolup" system for etching halftone cuts is an acid-resisting ink which takes the place of dragon blood. To begin the making of a halftone, sponsors state, a lower negative is made than is used for dragon's blood to insure an exact reproduction of the photograph, the middle tones being maintained to a much greater degree than in a high negative. The negative is developed, printed and the first bite taken in the usual way. The plate is then inked—or rolled up—by means of a common ink roller and returned to the etching machine and the second bite taken. The halftone is then washed and re-etched to snap up the whites.

The secret of the process lies in the consistency of the ink, which, while only covering the surface of the dots when the ink roller is applied, flows with the action of the acid, protecting the walls of the shoulders and minimizing undercutting and to give cone-shaped supports for the dots.

Under a magnifying glass, it is reported, the wells between the dots have the appearance of having been drilled, the wall being smooth, free from dirt and all apparently the same depth. The process is said to be equally effective with wet plate or film.

Ernest Scherer, the inventor, who is still a young man, is Superintendent of The Minneapolis *Tribune* Engraving department and has been an engraver for over 27 years.

P-Double-E File No. 2E22.

SALES INCREASE

President Gerard Swope announced recently that orders received during the first two months of 1937 amounted to $64,000,000, an increase of 79% over the corresponding period last year, and that sales billed in the first two months were $45,000,000, an increase of 39% over the same period last year.

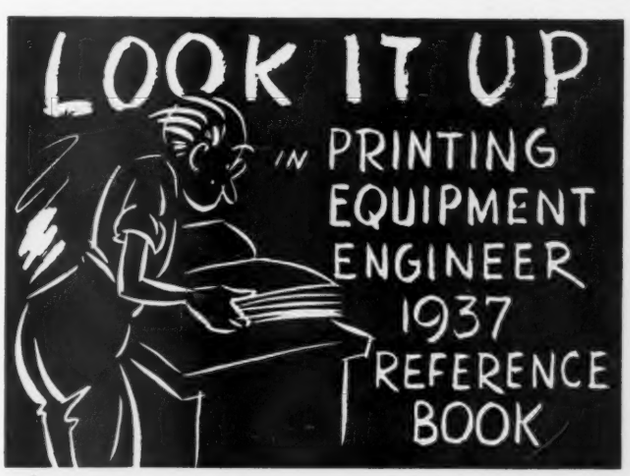
L. E. BAUERFEIND

Cost Accountant and Efficiency Engineer

SPECIALIZING IN

Newspaper Expense Budgets and Cost Accounting, Composing Room Cost Control.

101 East 30th Street **Austin, Texas**



Speaking from Experience—

THE WILLIAM FEATHER COMPANY
Printers and Publishers
812 HURON ROAD
CLEVELAND
OHIO

March 12, 1937

Imperial Type Metal Co.
1800 South 54th Ave.
Chicago, Ill.

Gentlemen:

For a period of over ten years I have been employed as Linotype machinist for The William Feather Co., and all during this time we have used Imperial Type Metal exclusively.

In all that time we have never had any trouble that could be traced in the slightest degree to our metal. We have never had a "stuck" slug in our molds nor have we had broken face on the type due to faulty metal. And all this has been done with no especial care except keeping the molds fairly clean and the temperature in the melting pot at the correct point.

Almost any machinist will tell you that when your metal troubles are "licked" in advance by Imperial Type Metal Company, half of his headaches are over.

Very sincerely,

Maurice D. Kalk

Maurice D. Kalk
Linotype Machinist
The William Feather Company

WE HAVE NOTHING MORE TO SAY

Imperial
IMPERIAL TYPE METAL COMPANY
PHILADELPHIA • NEW YORK • LOS ANGELES • CHICAGO

Flat Casting Box

By ELLSWORTH L. BAILEY*

FOR the information of those having trouble with variation in the thickness of stereotype flat casts, take a straight edge and lay it across the face of the front and back plate of the casting box. Try it cross and lengthwise and you will more than likely find that the plates have warped from 0.018 in. to 0.035 in. Remove the two plates from the frame and take them to a machine shop where there is a large milling machine or planer, preferably a milling machine as a better job will probably result. Have just enough taken off the bed to make it flat. Be sure that only small cuts are taken, as there will be hard spots in the castings caused from the pouring of hot metal over the plates. If too large a bite is taken when one of the hard spots is struck by the cutting tool, it will cause the tool to chatter on the plate, thus making it necessary to take several more cuts to remove the chatter marks. Warped plates that have been machined will not warp again. You will find that after having the face machined off of the plates the box will work O.K. again. I have found that chip board placed on the back of the box will distribute the heat more evenly than any other material that I have used. It is very reasonable in price and can be gotten at your supply house. In addition, it really does improve the casts.

*Superintendent Press-Stereo Dept., Alton (Ill.) *Evening Telegraph*.

PRESIDENT BECKER REPORTS

Neal Dow Becker, President of Intertype Corporation, recently presented to stockholders the twenty-first annual report of that company. The operations of the company and its subsidiaries for 1936, after setting up reserves for taxes and depreciation, resulted in an addition to surplus of $392,626.13. This is equivalent after regular annual dividends of $8 a share on the first preferred stock and $6 a share on the second preferred stock to $1.42 a share on the 221,612 shares of no-par common stock outstanding.

During 1936 as in previous years, the regular dividends were paid on the first preferred stock and on the second preferred stock. Dividends amounting to 75 cents a share were paid on the common stock as compared with 40 cents a share paid in 1935.

On June 1, 1936, the Corporation retired all of its funded debt by paying at 103 and interest the $548,000 of 5½ per cent Debenture Bonds then outstanding, which were due in 1942. Mr. Becker reports the Corporation has no bank loans.

The volume of sales in 1936 was larger than in any of the six years previous.

GLOSS INK FACTS

The E. J. Kelly Company, working in conjunction with several paper mills, have assembled data regarding the use of gloss inks. This information appears in the March and April issues of the Kelly house organ, *Inklings*, which is issued to the printing trade monthly.

LEAVES MARION "STAR"

Lester Yeager, who has been head of the stereotype-pressroom department of the Marion (O.) *Star*, has severed his connection with that paper. He has been succeeded by Richard Reece who has previously acted as assistant to Mr. Yeager.

USES LARGE BROADSIDES

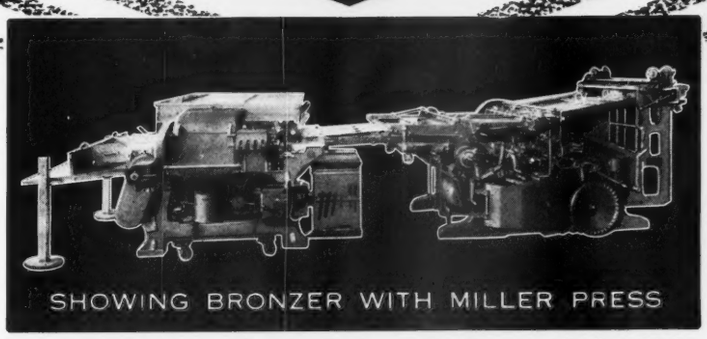
The Intertype Corporation is using large broadsides, 24 in. by 36 in. to tell the story of its new series of streamlined machines. Big pictures of the various models are reproduced, and in one folder thirty-five details of various mechanisms are shown, together with a complete list of the "101 features" of the new machines. Close-ups of the new-style wide base, hinged front covers, two-letter 24-point matrices and many other features are brought out prominently.

Copies of these broadsides are obtainable from any Intertype office.

BURGESS CHROME MATS

QUALITY BRONZING

CLEAN PRODUCTION



SHOWING BRONZER WITH MILLER PRESS

MILWAUKEE BRONZER

Outstanding Features: — Heavy construction, portable, guaranteed to bronze and clean sheets in one operation — no loose bronze flying around — We erect and demonstrate machine on your floor. Made in all sizes. Write for prices and further details.

228 W. Mineral St. **C. B. HENSCHEL MFG. CO.** Milwaukee, Wis.

BURGESS CHROME MATS

The Advertising Manager Says

Burgess Chrome Syndicate Mats give us the best color register because of uniform shrinkage.

BURGESS CHROME MATS

BURGESS CHROME MATS

CHROME MATS A LABORATORY PRODUCT MADE IN U.S.A.

BURGESS CELLULOSE COMPANY

FREEPORT - ILLINOIS

2

Pacific Coast Representative, RALPH LEBER, 426 Polson Bldg., Seattle, Washington

A 286

BURGESS CHROME MATS

Look into This

FOR GREATER
Dry Mat
SATISFACTION

THERE are many qualities vital to clean cut graphic reproduction that are not visible even through the enlarging glass, but when you specify WOOD Dry Mats you have complete assurance of quality, dependability and consistent uniformity. That's why the most critical buyers have demanded WOOD Dry Mats since 1915.

Always WOOD DRY MATS *Uniform*

WOOD FLONG CORP.
HOOSICK FALLS • NEW YORK

Color Simplification

By REGINALD SUNDIN*

Color in printing should serve same purpose as color in art.

THE theory of color, which is usually considered a sort of mysticism by most laymen and printers, becomes a simple matter when certain fundamental laws of nature are understood.

The sun is the source of all color. This may be proved when a ray of light is projected through a prism separation and we see revealed all the colors of the rainbow blending into one another.

Color in printing should serve the same purpose as color in art. It should add beauty, strength, and attraction. The color sensations transmitted to the human organism through the eye can arouse feelings of satisfaction, warmth, cold, brightness, darkness, joy or despair.

The selection of color, or the separation of color for a piece of printing must be planned at the start. The theme must be appropriate to the message and must be dominantly expressed in the type masses and the art work. The color is used to emphasize the theme and accentuate expression by balanced distribution, harmonious combinations, correct symbolic meanings, and appropriate appeal to desired emotions.

Briefly, the printed piece must be so designed that it will arouse pleasing and satisfying emotions. The growing need for color in printing demands that the modern printer widen his knowledge to include as thorough an understanding of color as that of the artist. For color printing is real art.

*Abstract from prize winning essay entitled "Color Simplification for Printers." The essay was entered in the contest conducted by International Printing Ink Corporation. Mr. Sundin is a student in presswork at the Frank Wiggins Trade School, Los Angeles, Calif.

PARKS HAS NEW JOB

William L. ("Bill") Parks, who for several years has covered Long Island for the Mergenthaler Linotype Company has been graduated to Linotype headquarters, in Brooklyn, and made a member of the sales and reception staff. His chief duties will be to conduct visitors through the big plant and to describe for them, technically or otherwise, the various methods and operations followed, and to put them in touch with the latest Linotype developments.

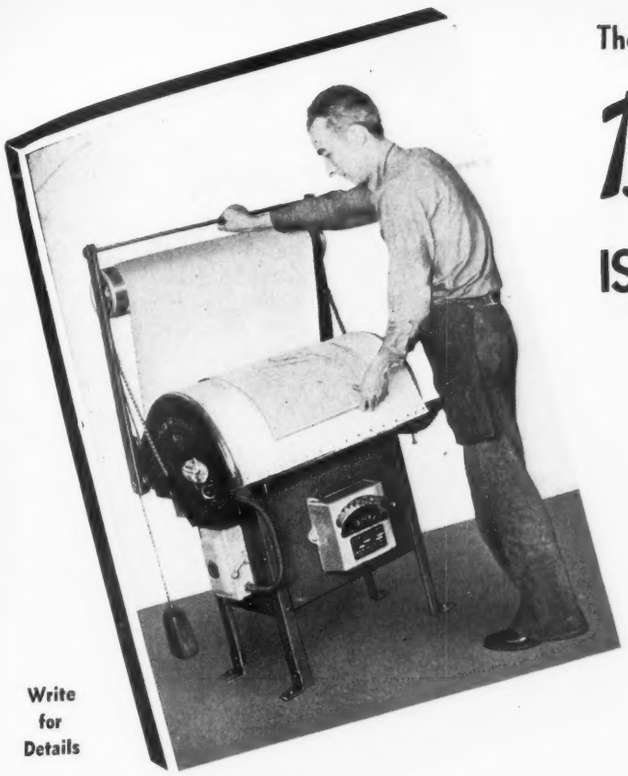
NEW PRODUCTION MANAGER

J. Stanley Probst has been named production manager of the Cleveland *Shopping News*. This is a newly created position. Mr. Probst has been associated with the *Shopping News* for several years.

Superintendent L. H. Harter reports the installation of two Model 30 Linotypes with 6-mold disks and Mohr Lino-Saws.

For YOUR Especial Use

The P-Double-E Filing System, as explained and used in the 1937 Printing Equipment and Supplies Reference Number, was created especially for you. Study its plan and refer to the index often. During the day's busy production hours both the Manufacturers' and the Equipment and Supplies Indexes will save you a great deal of time which you can ill afford to spare from your other duties.



Write for Details

The *"MAT-A-MINUTE"* FORM-O-SCORCH with

Direct Heat.....

IS MAKING WARM FRIENDS

Because it gives absolutely uniform heat, prepares mats quicker and better without variation.

Because it has many stages of heat adjustable to the finest degree.

Because its patented cover provides uniform pressure, eliminating buckles and forming mats perfectly.

AMERICAN PUBLISHERS SUPPLY

BOX 131 — WEST LYNN, MASS.

EDES PHOTO-ENGRAVING

EDES SUPERFINE QUALITY ZINC

ZINC

THE STANDARD FOR MORE THAN 80 YEARS

HOLDS THE FINE LINES

THE EDES MANUFACTURING CO., PLYMOUTH, MASS.

Stocks Carried by the Following Representatives

John H. Heimbuecher Metals Co., 514 No. Third St., St. Louis, Mo.
Gazzolo Drug and Chemical Co., 119 So. Green St., Chicago, Ill.
E. H. Walker Supply Co., Printcraft Bldg., Washington, D. C.
Selby Mohr, 883 Mission St., San Francisco, Cal.
C. S. Illingworth, 49 Springville Avenue, Buffalo, New York
Thompson-Hayward Chemical Co., 2228 Blake St., Denver, Colo.
Thompson-Hayward Chemical Co., 909 2nd St. So., Minneapolis, Minn.
Metzger Photo Supply Co., 1091 So. Main St., Akron, Ohio
G. C. Dom Supply Co., 125 East Pearl St., Cincinnati, Ohio

SPEED
Electric
Scorchers

The pioneer of electrically heated matrix scorchers.

The scorcher that drys mats quickly, uniformly, economically and without distortion, and at a low price.

Model 43-SP-4
Floating Cover

Install a SPEED scorcher with its perfect fitting floating cover plus its many other important features.

Write for description and prices.

Speed Products, Inc.
437 East 106th St.
CLEVELAND, OHIO

8 DEFINITE REASONS
for using FLEX DRY MATS

1. Quick scorching.
2. Splendid stayback.
3. Uniform shrink.
4. Less pressure in molding.
5. Freedom from buckling.
6. Uniform thickness.
7. Excellent reproduction of small type, heavy solids, halftones, and Ben Day.
8. Cost no more than ordinary mats.

Send for FREE SAMPLES

Send for free samples . . . today!

FLEXIDEAL DRY MAT COMPANY
21 WEST STREET NEW YORK

"Optic Aid"

By RUSSELL CALKINS*

Machinist proposes cardboard cover for old assembler models on line-casting machines

A VERY simple accessory, which may be made without cost and which is a concession to operators of the older models of line-casting machines consists of a cardboard disk suspended on the assembler chute cover. The idea is to conceal the revolving assembler matrix delivery belt driving pulley from the operator's eyes so he won't be annoyed by its distracting motion. The disk may be made as follows:

Cut from black cardboard, or other suitable material, a round disk about 4½ in. in diam. with ¼ in. hole punched near the top. Hang this disk on the assembler chute cover knob to obscure distracting motion of assembler driving pulley from the sight of the operator. The disk may be trimmed to such shape as to permit free movement of the assembler cover. The disk gives *optic relief* at this point similar to that afforded by the new stream-lined fronts now being produced on the new models of Intertypes and Linotypes.

*Machinist, Lima, (Ohio), *News*.

Recent Equipment Sales

Recent Linotype Installations

Linotypes recently have been installed by the Auburn (Calif.) *Journal;* Oliver E. Eads, Pasadena, Calif.; South Bay *Daily Breeze*, Redondo Beach, Calif. (Two-in-One Model 14); Roy B. Slater, Salinas, Calif.; San Francisco *Shopping News* (two Four-Magazine Model 30s); Weiss Printing Company, San Francisco; Review and Herald Publishing Association, Takoma Park, D. C. (two Four-Magazine Model 8s with self-quadders); Florida *Times-Union*, Jacksonville (Four-Magazine Two-in-One Model 29); George W. Tidwell, Augusta, Ga. (Blue Streak Model 14); Centralia (Ill.) *Evening Sentinel* (Blue Streak Model 14 with a self-quadder); M&L Typesetting & Electrotyping Company, Inc., Chicago; Maplewood Press, Chicago; Decatur (Ind.) *Democrat* (Blue Streak Model 14); Hobart (Ind.) *News-Gazette;* Federal Prison Industries, Inc., Fort Leavenworth, Kan. (Blue Streak Model 8); Greensburg (Ky.) *Record-Herald* (Blue Streak Model 14); Dickson Company, Louisville, Ky. (three Linotypes—a Blue Streak Model 8); a Blue Streak Model 8 with a self-quadder, and a Two-in-One Blue Streak Model 14 with a self-quadder); Ortlieb Printing Company, Baton Rouge, La. (Blue Streak Model 14); United Drug Company, Boston (Blue Streak Model 14 with a self-quadder); Fitchburg (Mass.) *Sentinel* (Two-in-One Blue Streak with a self-quadder); Heffernan Press, Worcester, Mass.; Huron County *Tribune*, Bad Axe, Mich. (Blue Streak Model 14); Safran Printing Company, Detroit (two Model 8s); Grand Ledge (Mich.) *News;* Littlefork (Minn.) *Times;* Perfection Type, Inc., St. Paul (Blue Streak Model 8 with a self-quadder); Natchez (Miss.) *Democrat* (Blue Streak Model 8); St. Louis Typesetting Company, St. Louis (Two-in-One Blue Streak Model 14 with a self-quadder); Great Falls (Mont.) *Leader and Tribune* (Blue Streak Model 14); Newark (N. J.) *Star-Eagle* (Two-in-One Blue Streak Model 14); Croton-on-Hudson (N. Y.) *News;* Valier (Mont.) *Valerian;* New Salem (N. D.) *Journal;* Bohme & Blinkmann, Inc., Cleveland (Forty-two Pica Model 26 with a self-quadder); Neil Composition Company, Cleveland, Ohio; Standard Register Company, Dayton, Ohio (Four-Magazine Model 29 with a self-quadder); Oklahoma City *Oklahoman and Times* (two Linotypes—a Two-in-One Blue Streak Model 14 with a self-quadder and a Super Display Model 28 with a self-quadder); Koke-Chapman Properties, Inc., Eugene, Ore.; George F. Lasher Printing Company, Philadelphia (Blue Streak Model 8); Amarillo (Texas) *Globe and News* (Blue Streak Model 14 with a self-quadder); Green Bay (Wis.) *Press-Gazette;* Joseph Anthony Smits West DePere, Wis.; Ketchikan (Alaska) *Chronicle* (Blue Streak Model 14)

Intertype Sales

Sales reported by the Intertype Corporation this month include a machine to the Sedalia (Mo.) *Times*, a four-deck Model F; Berkshire *Eagle*, Pittsfield, Mass., four-deck Model Gsm; El Monte (Cal.) *Independent*, Model A; Wm. N. Cann, Inc., Wilmington, Del., Model C; East Bay Printing Co., Oakland, Cal., four-deck Model Gsm; Loyola University Press, Chicago, Model Fsm; Detroit *News*, four Model B's; Service Typesetting Co., New York, Model C; Texas *Mesquiter*, Mesquite, Tex., Model C; Miller & Bauer Typesetting Co., Louisville, Ky., Model C; South Whitley (Ind.) *Tribune*, Model B; Newton & Magruder, Pomona, Cal., Model B; Fort Plain (N. Y.) *Free Press-Mohawk Valley Register*, Model B; Meridian (Miss.) *Star*, four-deck Model G; Glen Ellyn (Ill.) *News*, Model Fsm; Daily *Hampshire Gazette*, Northampton, Mass., four-deck Model G and four-deck Model C; West Publishing Company, St. Paul, four Model B's, six Model F's, and seven Model A's; Mr. John J. Thomas, New York, Model C; Philadelphia *Record*, three four-deck Model C's, one four-deck Model G, and one four-deck Model H; Standard Statistics Co., Inc., New York, Model B; Hutchinson (Kans.) *News and Herald*, one four-deck Model Gsm; Smith Typeshop, Inc., Oklahoma City, four-deck Model C; Payne County *News*, Stillwater, Okla., four-deck Model Csm; Centre Linotypers, Inc., New York, Model C; New York *Sun*, two Model F's; *Radio Guide*, New York, Model C; New York *Sun*, three four-deck Model F's and one four-deck Model G; *Radio Guide*, Chicago, Model C; Dayton (O.) *Journal-Herald*, two four-deck Model C's; Steine Printing Co., Waterloo, Ia., Model Bsm; Aanta Ana (Cal.) *Journal*, Model Gsm; Spokane *Spokesman-Review*, Model F and Model G; Clegg Co., San Antonio, Tex., four-deck Model Csm; Providence *Journal*, seven four-deck Model Fsm; *Christian Science Monitor*, two four-deck Model Gsm and two Model B's; Memphis *Commercial-Appeal*, four Model F's.

Recent Hoe Sales

In line with the recent trend of numerous Publishers to install more modern productive equipment, the Pittsburgh (Pa.) *Post-Gazette* recently placed an order with R. Hoe & Co. Inc., for 12 new Hoe Arched Type Super-Production Units with 3 new Super-Production Double Former Folders.

In these units will be incorporated Instantaneous Plate Lock-Up, Hoe Patented Automatic Pump System of Ink Distribution with crank shaft ink motion drive and sight forced-feed lubrication. The Super-Production Folders are completely anti-friction with the newly developed Hoe Tapered Gear Folding and Cutting Cylinder Drive with gearing enclosed in oil-tight housings.

The 12 units will be arranged all in one line, mounted on an extra heavy cast iron substructure for underneath roll feed and will have provision for the attachment of color facilities in the future.

This mammoth press will be of latest Hoe newspaper press design and construction, similar to the Units recently installed by the Charlotte (N. Car.) *Observer*, Richmond (Va.) *News-Leader*, *Deseret News*, Salt Lake City, Utah, and to those now under construction for the Fall River (Mass.) *Herald-News*, Miami (Fla.) *Tribune*, Los Angeles (Calif.) *Times*, Toronto (Ont.) Canada *Globe & Mail*, and New Orleans (La.) *Times-Picayune*.

The Boston *Globe* has ordered from R. Hoe & Co., Inc., a new Vertical-Type Super-Production Octuple press, with a new Super-Production Double Former Folder, to supplement present Hoe equipment. The press will be added to a Hoe Vertical-Type Super-Production Octuple converting it into an 8-unit, two folder line, all mounted on an extra heavy substructure. The entire 8-unit line will be equipped with Hoe 3-arm reels with Electrically Controlled Automatic tension devices and Hoe High Speed Pasters.

Recent Ludlow-Elrod Installations

Ludlows have been recently installed by the Moline (Ill.) *Dispatch* (2); Richmond (Va.) *News-Leader* (2); Rock Island (Ill.) *Argus;* Red Bank (N. J.) *Standard*; Waltham (Mass.) *News-Tribune*; Rock Hill (S. C.) Evening *Herald*; and the Webster (Mass.) *Times*.

Elrods have been recently installed by the Passaic (N. J.) *Herald-News;* Moline (Ill.) *Dispatch*; and the Laurel (Miss.) *Leader-Call*.

SERVICE IS PARAMOUNT

Unprecedented activity for the Graphic Arts Industry in 1937, with a major portion of the business going to shops mechanically equipped to give the best service, was the prediction of F. A. Melcher, of Chicago Printers' Machinery Works. "We have kept pace with today's demands for both more speed and more precision in printing machinery, by constantly adding new equipment to our large machine shop," Mr. Melcher is quoted as saying. Established in a small way in 1914, Chicago Printers' Machinery Works is now entering its 23rd year.

FOR REBUILT EQUIPMENT
Chicago's
THE PLACE . . .

TO SAVE $$

Save money on replacements! Chicago rebuilt these machines to perform like new and offers them at prices unheard of anywhere. Every machine is thoroughly re-conditioned and brought up-to-date. An ironclad guarantee goes with each. Personally visit our display room. Buy any of the specials listed here and Chicago will reimburse your train fare! Write, wire or phone today!

No. 4—Miehle Automatic Unit, 29x40 Bed with Dexter Suction Pile Swing Back Feeder.

Kelly, Style B Special 17x22 Bed with Auxiliary attachment. Extension Delivery.

Miehle Vertical 13½x20 Sheet Size. One of the buys of the month.

Model 14 Linotype, Late Style, Single Keyboard. A real bargain.

Platen Presses, Paper Cutters, Stitchers, Proof Presses, Perforators, Paper Drilling Machines, Saws, etc.

CHICAGO PRINTERS' MACHINERY WORKS
Everything for the Printer
"SEE CHICAGO FIRST"
609 WEST LAKE STREET CHICAGO, ILL.
ALL PHONES MONROE 1814

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it brings Results

Only long, laborious, single-minded apprenticeship brings success. It, alone, insures results. Look at what Kimble's 30-year specialization has meant to electric motors for the Graphic Arts!

KIMBLE ELECTRIC COMPANY
2011 West Hastings Street, Chicago, Illinois

KIMBLE Motors
Distributed by
AMERICAN TYPE FOUNDERS
Branches and Sales Agents in Twenty-Five Cities

You, Too, Will Like

MASTERPIECE
Cork Molding Creepers
and
STERE-O-CORK
Molding Blankets

The majority of leading stereotypers have approved them as standard for stereotype use.

Order a supply today and make your own test.

COYNE & PADDOCK INC.

{ Successors to Paddock Cork Company }

48-15 32nd Place Long Island City, N. Y.

Everybody is
PLEASED

. . . stereotypers, press foremen, mechanical superintendents, business managers, editors, advertisers and readers—of newspapers which use

MORLEY
MATS

They give deep, clean-cut, accurate impressions at low moulding pressure—prolonging the life of moulding blankets, type and cuts.

Mill-conditioned to control shrink—scorch quickly—release easily, without need of oil or powder.

We'd like to send you samples.

MORLEY BUTTON
MANUFACTURING COMPANY
Portsmouth, New Hampshire
New York Office 46 East 11th Street

Matrix Recovery

(*Continued from Page 18*)

it would not be possible to rig up a foot switch for each of our four Miller Saws. As they were continually running on both shifts, I felt that even though we might overlook the power being wasted, it would be very hard for us to continue to disregard the wear and tear the continuous motion would necessarily cause to both motor and machine parts. Another angle to the situation was added by Safety Council in officials taking the stand that this continuous running was a safety hazard and something should be done to overcome it. In taking this attitude the Safety Council disregarded the fact that there was a hand switch on each machine and that these same men to whom it became a hazard could overcome this easily by turning the switch. So it appeared it was necessary to make the saws fool-proof. This was accomplished by Arthur Dent who explains it in the following way:

"I have installed on the Miller Saws a starting device which for want to a better name I will call the 'Step-On Switch.' It consists of a magnetic switch enclosed in a steel cabinet working in conjunction with a foot-operated switch which controls the magnetic switch. A compositor wishing to use the saw stands in the same position he ordinarily would. The foot switch has been placed on the base of the pedestal in such position that the operator's foot engages the switch, automatically starting the saw. When the operator is through, the foot switch is released to stop the saw as soon as he moves his foot.

"If we had single-phase motors we could have accomplished our objective a great deal easier by purchasing a two-pole foot switch. We have two-phase motors which require a switch that would disconnect all four wires. This would also apply on three-phase motors. However, even on the single-phase I would recommend a double pole magnetic switch."

Makeup Table

(*Continued from Page 24*)

Ludlow lines and spacing material. To give you a better idea of the amount of leads and slugs in this case, there are 12 in. of slugs and 6 in. of leads of all sizes.

The tops of each compartment are made sloping like a money drawer. It is impossible to fill them so full that you cannot get them out easily and quickly. This case is brought forward so there will not be any unnecessary body stretching to get the size desired. The total height is only 67 in. from the floor.

The part I want you to "get" is that the leads and slugs run from the right to the left. The small sizes start on the right since they are the ones used most. You stand at the case with the material you want accessible to the right hand. Just imagine you are now standing at one of these tables and see how convenient it is to reach with your right hand, instead of twisting your body to the left and reaching over your left shoulder.

Why all other lead and slug cases are made with the small sizes starting on the left could never be explained.

The old-timer will remember, in hand set days, the double cap case had the caps on the left and the small caps on the right until some one thought of reversing them, which made it a lot more convenient.

These ad make-up tables are made of wood with 1/8 in. iron on top of the 1½ in. wood top. There is also an iron band around the top to prevent the wear caused by form trucks rubbing against them.

Under the top we placed shelves to hold pick-up ads or ads that are set in advance as well as galleys full of cut leads and slugs to use in rush periods.

Some may criticize the height of this table. It is as high as the form trucks or about 39 in. Those who have worked on the old high tops and who are now making up most of the ads on stones and the men who work on the forms all day will know that it is not too low. However, if that is your objection, the tables can be made as high as you wish, but in that case the form truck will be lower than the table tops.

Letters to the Editor

(*Continued from Page 15*)

seven-hour working day. Many of our operators set more than this amount and some of them run as high as 2500 lines in seven hours. The 1890 lines mentioned in the contract figures out 30 in. per hour—210 in. in a seven-hour day or 240 in. in an eight-hour day, run-of-the-hook copy.

Sincerely yours,
L. E. Bauerfeind.

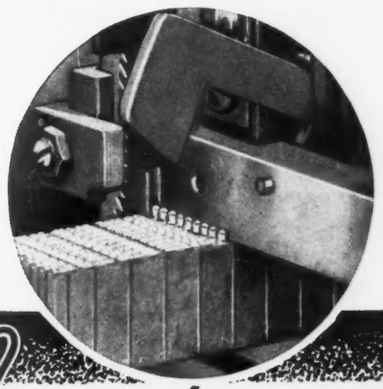
Concerning Production

Dear Editor—I have read with interest Mr. Bauerfeind's articles and the comments thereon. This newspaper prints six editions daily, averaging sixteen pages or better per edition. Out plant is as modern as it is possible to make a plant of its size and every convenience is employed to speed production.

Our contract with the Austin Typographical Union calls for 1890 lines of 7 pt. type per seven hour working day. The slug used is 7½ pt. Most of our operators produce from 2000 to 2500 lines per day. An operator who cannot average at least 1890 lines cannot hold a situation in this office. When reduced to column inches this means that at least 210 column inches must be produced per operator per shift. It is not unusual for our operators to produce 250 inches per shift.

The production and labor cost data used by Mr. Bauerfeind in his articles in accurate and was taken from the records of my office and reproduced with my permission and cooperation.

W. F. Thompson
Mechanical Superintendent
Austin (Tex.) *American-Statesman*.



No other way

Approaches the speed of the Rouse Band Saw in cutting slugs of different measures to accurate lengths for ad and job make-up.

There are now two sizes of the Rouse Band Saw. Both automatically select slug lengths, mechanically feed, and cut to predetermined measure. No. 1 will saw a full galley of slugs in 35 seconds. No. 2, for smaller plants, will saw 7 inches in 18 seconds.

The safety features, easy operation and positive accuracy should interest any compositor or production executive. Write now.

H. B. ROUSE & COMPANY
2216 WARD STREET, CHICAGO, ILLINOIS

RIEGEL'S TREATED JUTE
A SCIENTIFICALLY PREPARED TYMPAN

The old reliable. Its tough jute fibers stand up under the longest runs. Stocked in roll widths for every press.

RIEGEL PAPER CORP., 342 MADISON AVE., NEW YORK, N. Y.

THE SUCTION THAT LIFTS THE PAPER IN ALL SORTS OF FEEDERS

They are also used for blowing to loosen up sheets of paper on a pile feeder, and we have strainers to prevent oil from spraying on the sheets.

The printer also uses these pumps for cooling linotype molds and for blowing dust out of the working parts of machines and out of type cases.

The electrotyper uses the air for agitating his plating solutions, and these pumps are found in almost every plant doing this work. All sorts of shops use them for all sorts of air using devices.

IDEAL FOR VACUUM PRINTING FRAMES

In the big shops, especially in the newspaper plants, these pumps operate the stereotype furnaces creating high heats with gas or oil as fuel.

LEIMAN BROS., Inc.
141 CHRISTIE ST. NEWARK, N. J.
MAKERS OF GOOD MACHINERY 45 YEARS

THEY TAKE UP THEIR OWN WEAR

REID LINOTYPE AND INTERTYPE MAGAZINE RACKS
Stock sizes, any size made to order, write us how many magazines to store and what kind and will quote price. Rack Catalog.
WILLIAM REID & CO., 2271 Clybourn Ave., Chicago, Ill.

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HEADQUARTERS FOR
STEREOTYPE SUPPLIES
TRY THE BEST
GUMMED PACKING FELT
ALL THICKNESSES
Cut in Strips Without Extra Charge
EASTERN NEWSPAPER SUPPLY
9607 34th Ave. Corona, L. I., N. Y.

SPACEBANDS—75c each
Sizes available: Regular, Teletype, Thin, Extra Thin and Jumbo
SEND FOR CATALOG
REID BROTHERS CO., Inc.
BEVERLY, MASSACHUSETTS

PYROMETERS Portable and Wall Type for stereotype or remelting pots, linotype, intertype and monotype metal temperatures.
Write for Information
ILLINOIS TESTING LABORATORIES, Inc.
139 W. Austin Ave. Chicago, Ill.

***Use* FITZ-LIVECORK PRESS BLANKETS**
Write for Samples and Prices
FITZPATRICK FELT MANUFACTURING CO.
1971 East 79th Street Cleveland, Ohio

GOODRICH PRINTERS' ROLLERS
for printing that is clear and sharp throughout the entire run.
NILES & NELSON, Inc.
Exclusive Distributors
75 West Street - NEW YORK • 400 W. Madison St. - CHICAGO

Technical Literature
for April, 1937

1—*P-Double-E File No. 1EE*—Folder illustrates use and shows sizes of new type face.

2—*P-Double-E File No. 1G5*—Folder shows sizes and gives examples of use of new script face for Ludlow machines.

3—*P-Double-E File No. 5LL41*—Booklet describes experience with Miehle Vertical printing presses in a printing plant.

4—*P-Double-E File No. 1G*—Broadside illustrates and describes features of new Streamlined Intertypes.

5—*P-Double-E File No. 1EE5*—"Seven Stars" is the title of a folder showing specimens of as many foundry type faces.

6—*P-Double-E File No. 1G*—Jacket contains specimens of rule form composition executed with matrices and cast on the Ludlow.

7—*P-Double-E File No. 1G6*—Booklet illustrates and describes Klean-O-Mat process of cleaning composing machine matrices. Illustrated with microphotographs to show effect of cleaning solution on matrices after being processed.

8—*P-Double-E File No. 1G8*—Halftones and diagrams are used to help describe the Ludwick electric induction metal pot for line-composing machines, remelting furnaces and pots, feeder ingot casters, metal feeder, ingot mold and stereotype casting box.

9—*P-Double-E File No. 5AA*—"Alemite Industrial Lubrication Manual" has been thoroughly revised and is now offered gratis to maintenance men who may send their request on firm letterhead to Stewart-Warner Corporation direct or in care of *Printing* EQUIPMENT *Engineer.*

10—*P-Double-E File No. 5W*—Pocket size color book now on the press will be ready for distribution among executives at an early moment.

11—*P-Double-E File No. 3E*—Folder printed in attractive manner demonstrates working qualities of Gar-Tone Book.

12—*P-Double-E File No. 1T, 5CC, 6O*—Broadside beautifully printed discusses what specialization has done in the making of motors for driving printing machinery.

13—*P-Double-E File No. 3D*—"Acceleration," an attractive folder recently released by The Howard Paper Company is printed on Howard Bond. Contains stimulating advice to printers as well as several specimen letterheads as examples of what can be accomplished where Howard Bond is coordinated with effective design for appearance improvement.

Printing EQUIPMENT *Engineer,*
1276 West Third St., Cleveland, Ohio.

Gentlemen: please send the literature checked above without obligation.

Name of Company.....

Attention of.....

Position.....

Firm St. Address.....

City.....State.....

ESSAY CONTEST WINNERS

National winners in the IPI Essay Contest on Color were announced recently by Fred J. Hartman, chairman of the Contest Committee and Director of The National Graphic Arts Education Guild. First place goes to Reginald Sundin, student at the Frank Wiggins Trade High School, Los Angeles. Ralph Wines of Des Moines East High School is runner-up.

Sundin will be awarded a $400 scholarship to Carnegie Tech's Printing Institute, a trip to New York, and a job at The International Printing Ink Corporation when he finishes his course of training. The second prizewinner, Wines, will receive a trip to New York.

Overhead Expense

(*Continued from Page 4*)

Superintendence
And all other items which are the same regardless of the number of pages produced.

Variable Overhead Expenses are those items which vary according to plant production. They include:

Power
Heat
Lights
Water
Supplies
Repair Parts
Compensation Insurance
Social Security Taxes
Depreciation of Linotype metal, etc.

and should be controlled as closely as Direct Labor. They can be reduced by strict economy intelligently directed. We will deal with Overhead in the two groups. First the Non-Variable:

Depreciation Accounts

By all means use an equipment ledger. The Charles R. Hadley Company, of Los Angeles, Form H215 is ideal for this purpose. It is very complete and meets all requirements of the Internal Revenue Department. The form is so arranged as to carry a complete history of each item of equipment and has 12 columns in which each month's depreciation is entered. Many other equally as good forms of equipment and depreciation sheets are available but be sure that the one you choose lists each item depreciation separately. Depreciation should be taken until the book value is equal to the salvage value of the item after which no further depreciation should be charged.

There exists a great deal of argument in regard to depreciation rates. I consider the United Typothetae of America to be the best authority for printers generally. This organization recommends a straight 10% annual rate on machinery and equipment and 25% on foundry type, etc.

A. C. Baldwin & Sons, Austin, Texas, use a rate of 5% on all equipment and claim that appraisal after a number of years shows this to be too high.

Personally I believe in taking the higher depreciation rates. In the long run it is doubtful if it pays to keep old, worn and obsolete equipment in your composing room, as such equipment is bound to cause a loss in personal efficiency and a consequent increase in payroll and cost of repairs and maintenance.

Obsolescence A Vital Factor

Obsolescence is becoming a vital factor to publishers, whether they realize it or not. The development of quick-change typesetting machines carrying six molds, eight magazines and two-letter 18-point matrices make it possible to reduce the investment formerly required to carry an equal number of machine faces. These factors of recent development, which probably forecast even greater future developments, plainly show the advisability of a high depreciation rate.

Taxes. The taxes assessed against the composing room equipment should be charged to the department in twelve monthly instalments.

(*Continued on Page 58*)

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Insurance. Is usually prepaid for a year or a term of years. Each month the composing room should be charged with its proportionate share.

Rent. The total rent is divided by floor space used by each department and the composing room should be charged monthly with its share. If the building is owned, the charge is for the department's share of the building accounts, depreciation, insurance, taxes, maintenance, etc.

Interest on Investment. (If the theory is held that it is an expense item) should be charged to the department monthly.

Superintendence. Salaries of the superintendent and any other composing room executives who do not take physical part in the production of the paper.

These, and any other expense accounts which do not vary from month to month, are the Non-Variable Overhead group. The business office is entirely responsible for their actions and control. The Non-Variable Overhead cost per page will fluctuate in direct ratio to the number of pages produced, *i.e.*, the rate will increase as the number of pages decrease.

Makeready

(*Continued from Page 30*)

tions the printed sheets must undergo after printing, or the conditions under which the printed sheets are to be used as in the case of wrappers for various articles, which may affect or be affected by the ink. Such problems do not worry the pressman on constant runs, for example on book or magazine forms.

If an ink is too heavy (stiff) it cannot be made to penetrate the paper surface and the result is offset and picking. Yet a heavy ink prints sharper as on rag papers and engravers' proofing paper. So the other extreme, too soft an ink, is to be avoided because of filling and mottling. A slow press is likely to print better with a heavy ink than a fast press. The absorbency of the various papers must be studied as it has a major effect on the manner in which the ink leaves the form, sets and dries on the paper and serves as ground for surprinted inks. Drying of inks is a study in itself. Drying is not so difficult on fairly absorbent papers. With impermeable surfaces, however, the problem is to obtain prompt drying on the stock with the ink remaining "open" on the press to avoid washups.

Of course, research on the part of the ink-maker is constantly adding to possible pressroom production. Thus, the recently-introduced non-rub and non-scratch inks make subsequent operations available much earlier with consequent prompt delivery.

The pressman, working as he does under changing and uncertain instead of the more stable conditions of other departments, should be vigilant at all times and acquire the habit of check and double-check.

One day of a long run no trouble may occur; rollers and inks are all right, the print looks good and the ink is setting and drying as expected. But a considerable change in the atmosphere overnight can make a great difference. Often in the working day such a change occurs, so the need of checking for register, behavior of the ink, offset and sticking, slurs, workups and other troubles require checking and double-checking by the efficient pressman.

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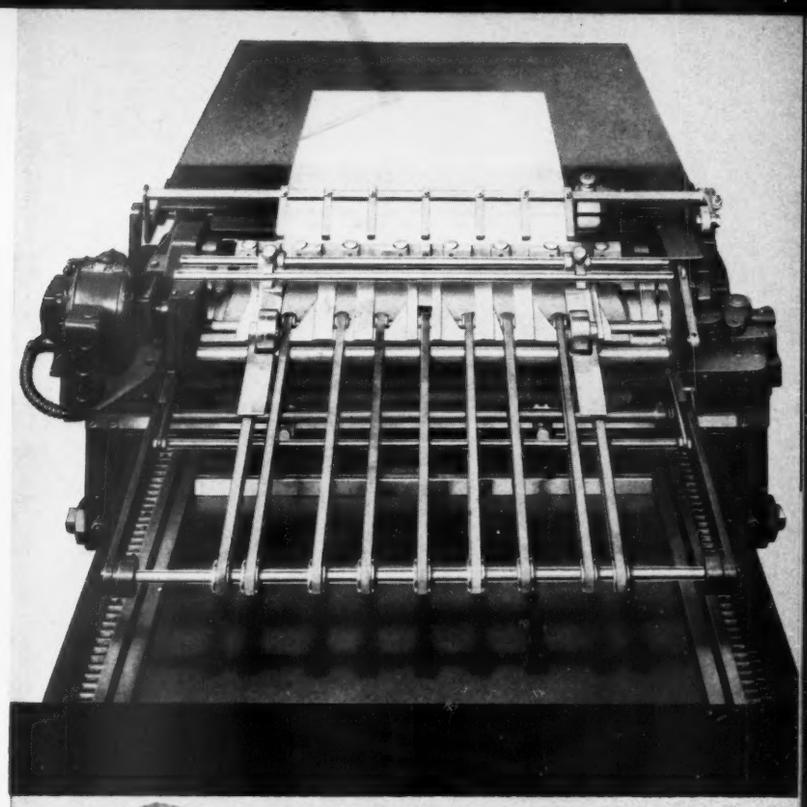
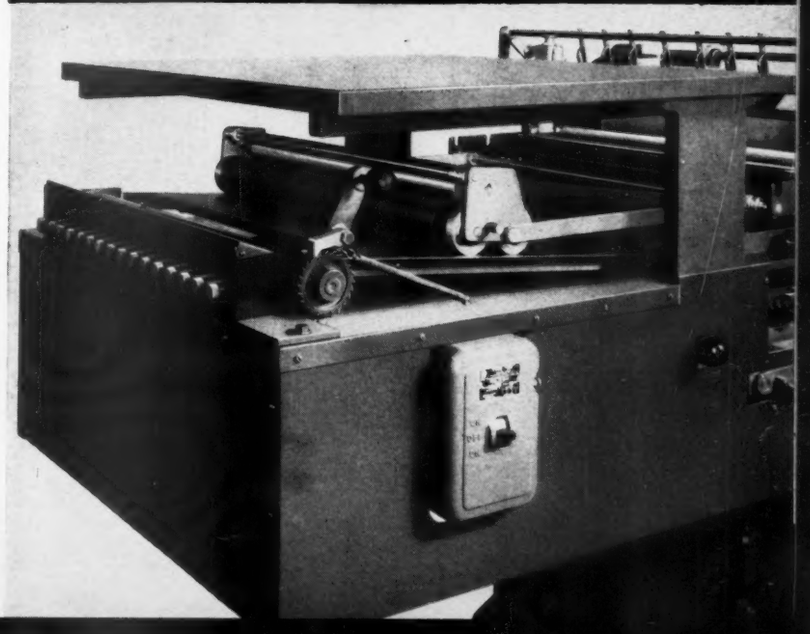
The illustrations show this No. 325A in detail and tells a story of sturdy construction, rigid bed, thorough inking, and easy feeding, essential where speed, quality, and dependability must go hand in hand.

Complete information on the No. 325A Power Proof Press will be sent upon request, and without obligation to you. Write now.





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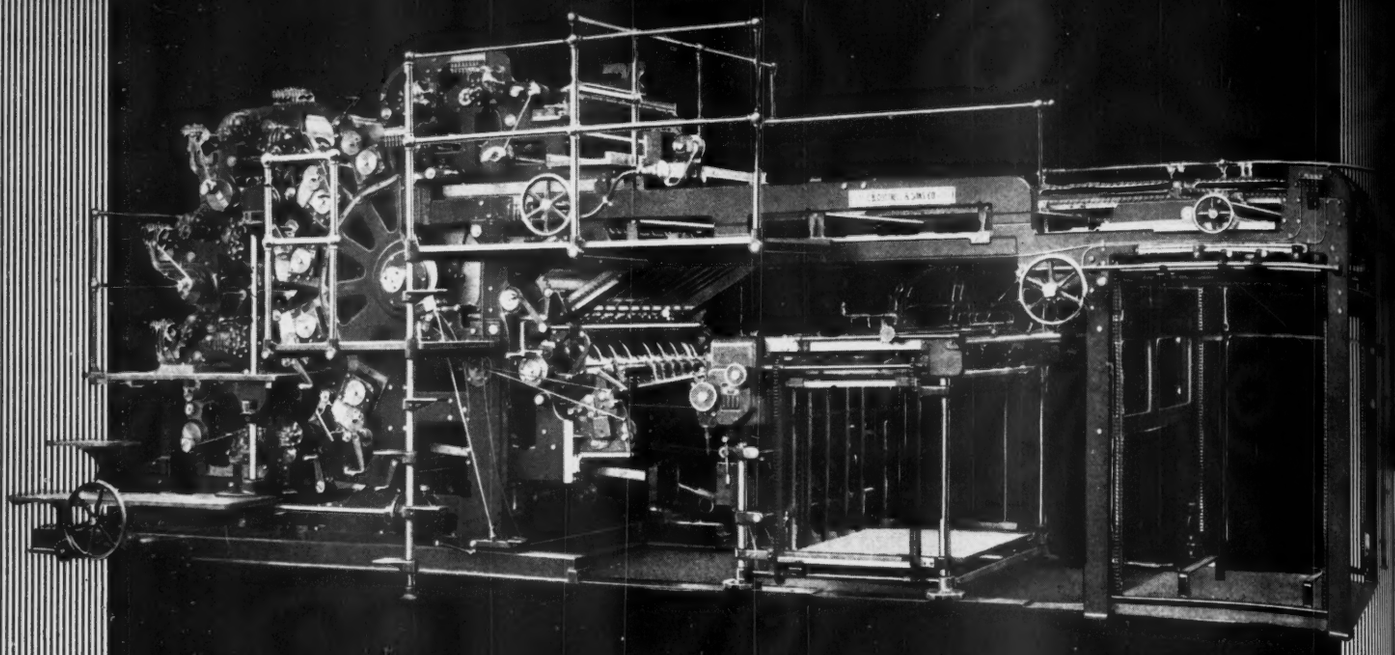

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